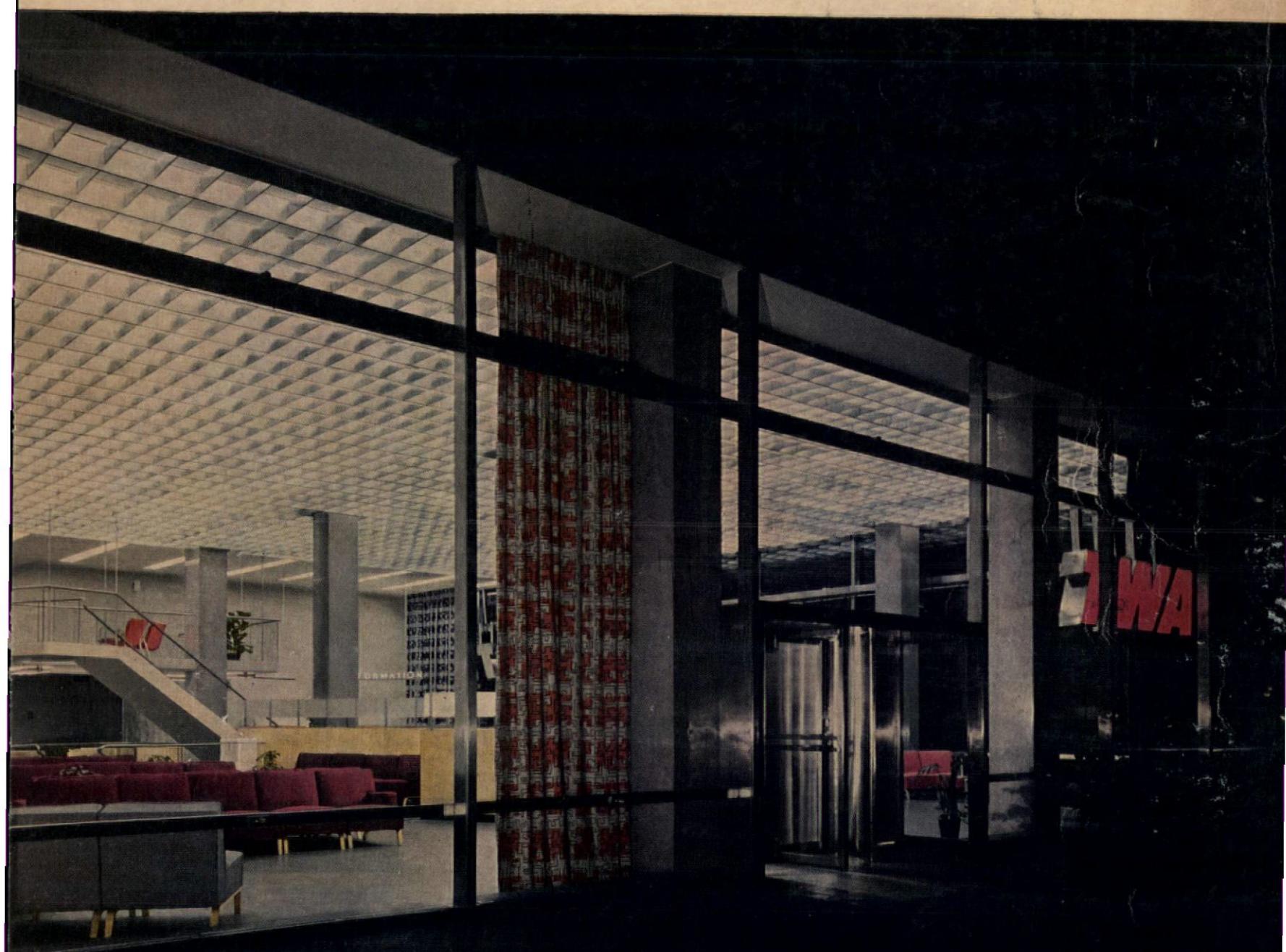


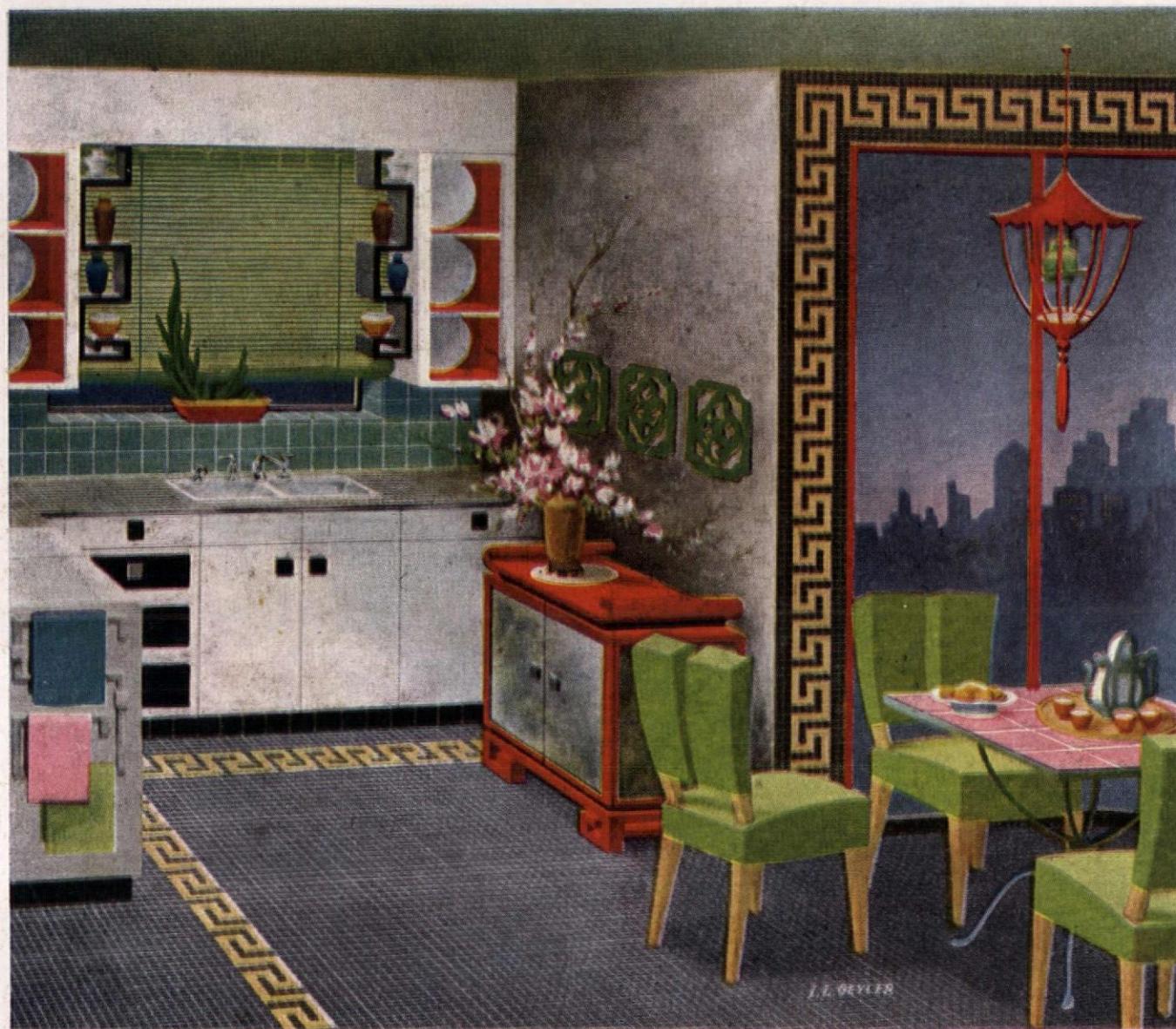
The Architectural

FORUM

Magazine of Building



March 1947



Color Balanced Suntile puts INTEREST in the Home!

Hold the charm of colorful rooms bright

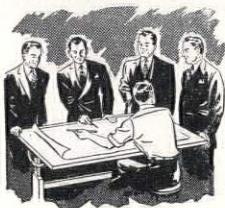
Color Balanced

Suntile
Bright with color. Right for life.

for life in beautiful real clay Suntile.

THE CAMBRIDGE TILE MFG. CO., CINCINNATI 15, OHIO • Member of the Producer's Council

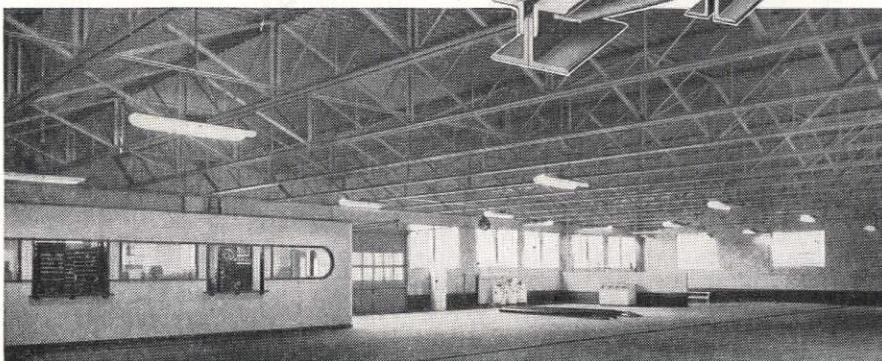
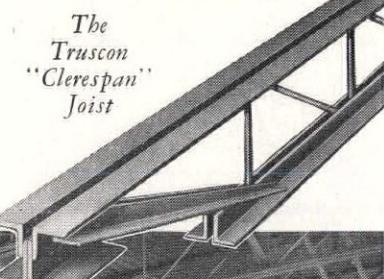
The PLANNING BOARD



The Truscon Planning Board says:
"Right now, as of Jan. 15, the big question is deliveries, and it's anybody's guess as to what actually

will happen. Our present delivery schedules read like this: Industrial Windows, 20 to 32 weeks; Office Building Windows, 24 weeks; Ferrobord Steeldeck, 16 weeks; O-T Steel Joists, 8 weeks; Clerespan Joists, contingent upon ability to get structural shapes. But somewhere along the line the bottleneck on one or more materials may break, and the whole system of production would be rapidly speeded up. Our suggestion is that you keep in close touch with your Truscon representative, and work with him on all specifications."

having top and bottom chords, each composed of two hot rolled angles with plain round individual web members except for bridging posts, which are composed of hot rolled angles. Truscon "Clerespan" Steel Joists are designed in accordance with standard accepted engineering practice. Top chords are designed for bending between panel points as well as for direct compression. All connections are positively secured by means of electric arc welding.

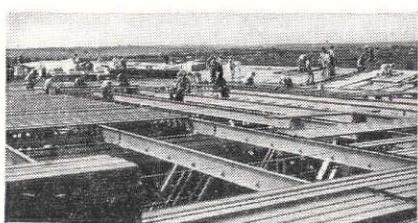


For Those Long, Long Reaches

If you're working on a job that involves big areas of open floor spaces, let your slide rule play with the interesting figures on Truscon "Clerespan" Joists. A great many beautiful, obstruction-free areas up to 64 feet in width have been attained with this strong, light-weight joist. Such a variety of jobs as the Safeway Stores, Omaha; National Lead Co. Shipping Building, St. Louis; La Salle St. Station Train Shed, Chicago; Boulder High School, Boulder, Colo.; Ohio Bell Telephone Co. Office and Storage Building, Zanesville, Ohio, and hundreds of others in wide variety, indicate the many building needs met by "Clerespan" Joists.

Fundamentally, a Truscon "Clerespan" Steel Joist is a Pratt truss

Your Sweet's File, or your new Truscon catalog on "Clerespan" Joists, will give you complete details on this practical steel construction member. And don't forget to ask your Truscon representative to help you in designing and engineering buildings that require large floor areas without posts, or supports except at joist ends.



Roofs—Big or Small

Whether it's just a small store or a big factory building, you'll find the answer to your roof problems in Truscon "Ferrobord" Steeldeck.

If you have a flat, pitched or curved roof on which to put an economical, permanent deck, "Ferrobord" permits you to meet all the requirements of such a job.

"Ferrobord" Steeldeck consists of a parallel system of strong structural interlocking steel members, which present a smooth surface over which can be applied built-up roofing of any type, with or without insulation. "Ferrobord" is made from both 20-gauge and 18-gauge copper-bearing strip steel, having an ultimate strength of not less than 50,000 lbs. per square inch. Each unit is 6 inches wide and has a depth of either 1½ or 1¾ inches.

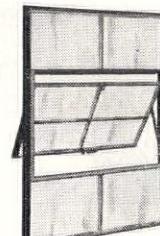
With these specifications you can design a roof job that's got strength and effective area coverage at reasonable cost. The Truscon Steel Company will be glad to cooperate with local roof companies in selecting the proper type of insulation and built-up roofing to meet certain definite requirements of structures.

Johnny-on-the-Spot

The Truscon Steel Company has engineering and sales offices in 43 major cities, strategically located throughout the United States. Each of these offices is manned by experienced men who have been in the designing and structural business a long time, and are capable of giving you helpful, intelligent service on your daily problems. There's a Truscon man in your own town, or just a short trip away. Don't hesitate to ask him to call on you, no matter where you are.

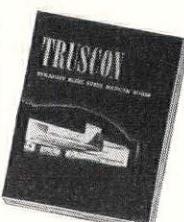
Which Way— In or Out?

There are a lot of times when you need a commercial window that's not only good looking but one that must meet special requirements. For instance, if windows must be screened, the outward projected type is the answer. The same is recommended when the ventilator must not, in an open position, intrude on the interior clearance required for crane movement, nor interfere with shades. Conversely, the ventilators may project in and provide needed ventilation without extending beyond the building line. The Truscon Commercial Projected Window is especially made for requirements of this kind. It's a good window to use for designing large window areas, too. Write for literature on the Truscon Commercial Projected Window, giving you complete mechanical features, construction details, and types and sizes.



New Literature

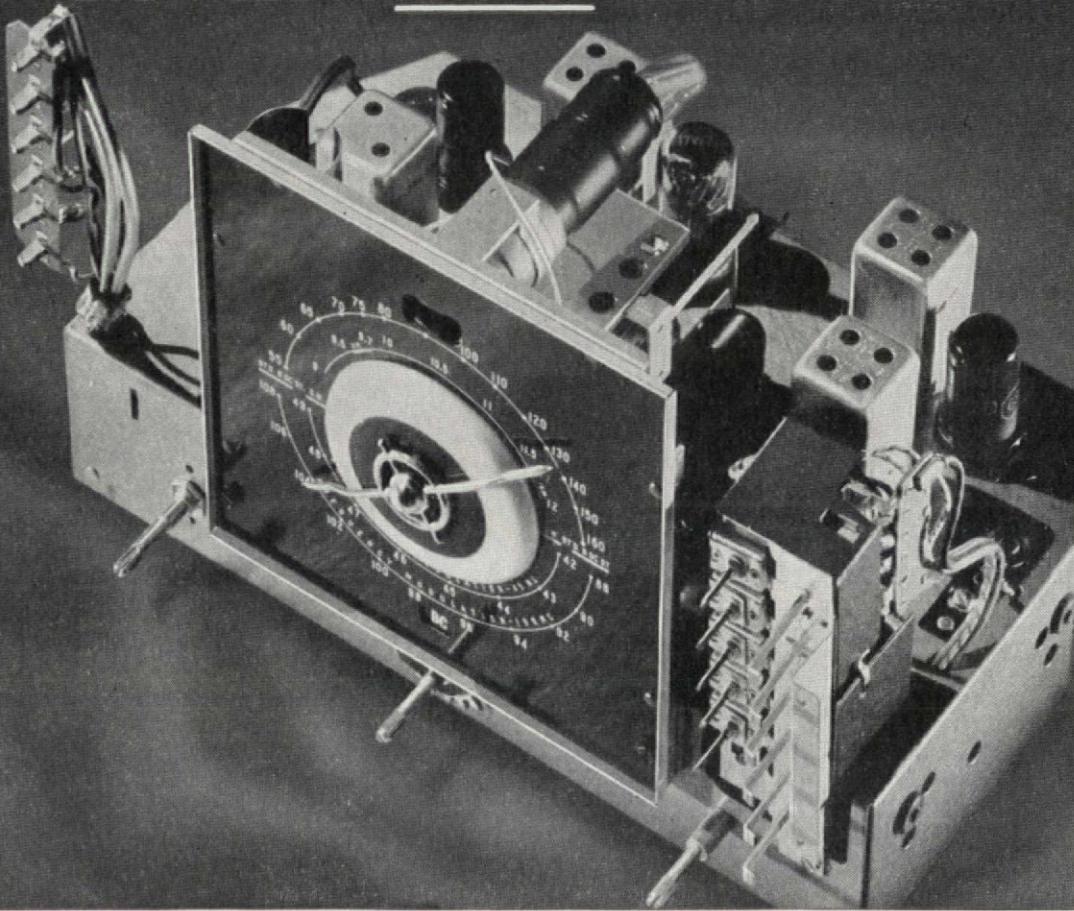
A complete new booklet on Truscon Straight Slide Steel Hangar Doors is available on request. This is a product on which we can make reasonably quick deliveries. If you have any airport jobs on your boards, get this new booklet now.



TRUSCON STEEL COMPANY

YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation

It's what's *Inside* that Counts!



WITH A RADIO, the cabinet counts as furniture. But it's what's *inside* the cabinet that makes the difference in tone, in power, in clarity and trouble-free performance.

With building products, too, it's what's *inside* that counts. Your eye seldom sees the values that make the important difference.

That's why building-wise people insist on Celotex Building and Insulating Products. They know the raw materials which go into Celotex products are the finest that nature can grow and man can refine.

They know, too, that rigid production controls all along the line *guarantee* the uniformly high quality of every product bearing the Celotex name.

Tireless laboratory research perfects materials and methods still more... helps to maintain Celotex leadership year after year.

These, plus more than a quarter of a century of

building materials "know-how," are the invaluable ingredients in every Celotex product.

They make a big difference in performance...in long life and low cost maintenance. A difference that has proved its value on hundreds of thousands of building jobs of every kind.

There aren't enough of these famous Celotex products to go around *now*—but our plants throughout the country are working day and night to increase production. Everything possible is being done to speed the time when we can supply you with all the Celotex products you need.

Building Board	Celo-Rok Sheathing and Wallboard
Interior Finish Boards	Celo-Siding
	Cemesto
	Celo-Rok Anchor Lath and Plaster
Flexcell	Rock Wool Insulation
	Triple Sealed Shingles

CELOTEX

REG. U.S. PAT. OFF.

BUILDING PRODUCTS

THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS

The Architectural

FORUM

MAGAZINE OF BUILDING



MARCH 1947

Published by TIME Incorporated

EDITOR-IN-CHIEF.....Henry R. Luce
PRESIDENT.....Roy E. Larsen
EDITORIAL DIRECTOR.....John Shaw Billings

The Architectural FORUM

MANAGING EDITOR
Henry Wright

ASSOCIATES: Millicent Bell, Eleanor Bittermann (Research), Leslie Check, Jr., Louise Cooper, James M. Fitch, Jr., Joseph C. Hazen, Jr., Mary Mix, Mary Sanders, Richard Saunders (Washington), Chloethiel Woodard (South America), Lawrence W. Mester (Production).

ASSISTANTS: Doris Hoffer, Sighle Kennedy, Rosalind Klein, Mary Jane Lightfoot, Amnon Rubinstein, Helen Ben Schiavo, Susanne Wason-Tucker.

ART DIRECTOR: Paul Grotz.

CONSULTANTS: Miles L. Coley, George Nelson.

BUSINESS MANAGER: Vernon Hitchcock.

CIRCULATION MANAGER: George Seufert.

ADVERTISING MANAGER
GEORGE P. SHUTT

PUBLISHER
HOWARD MYERS

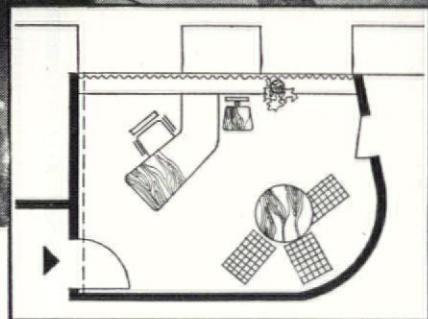
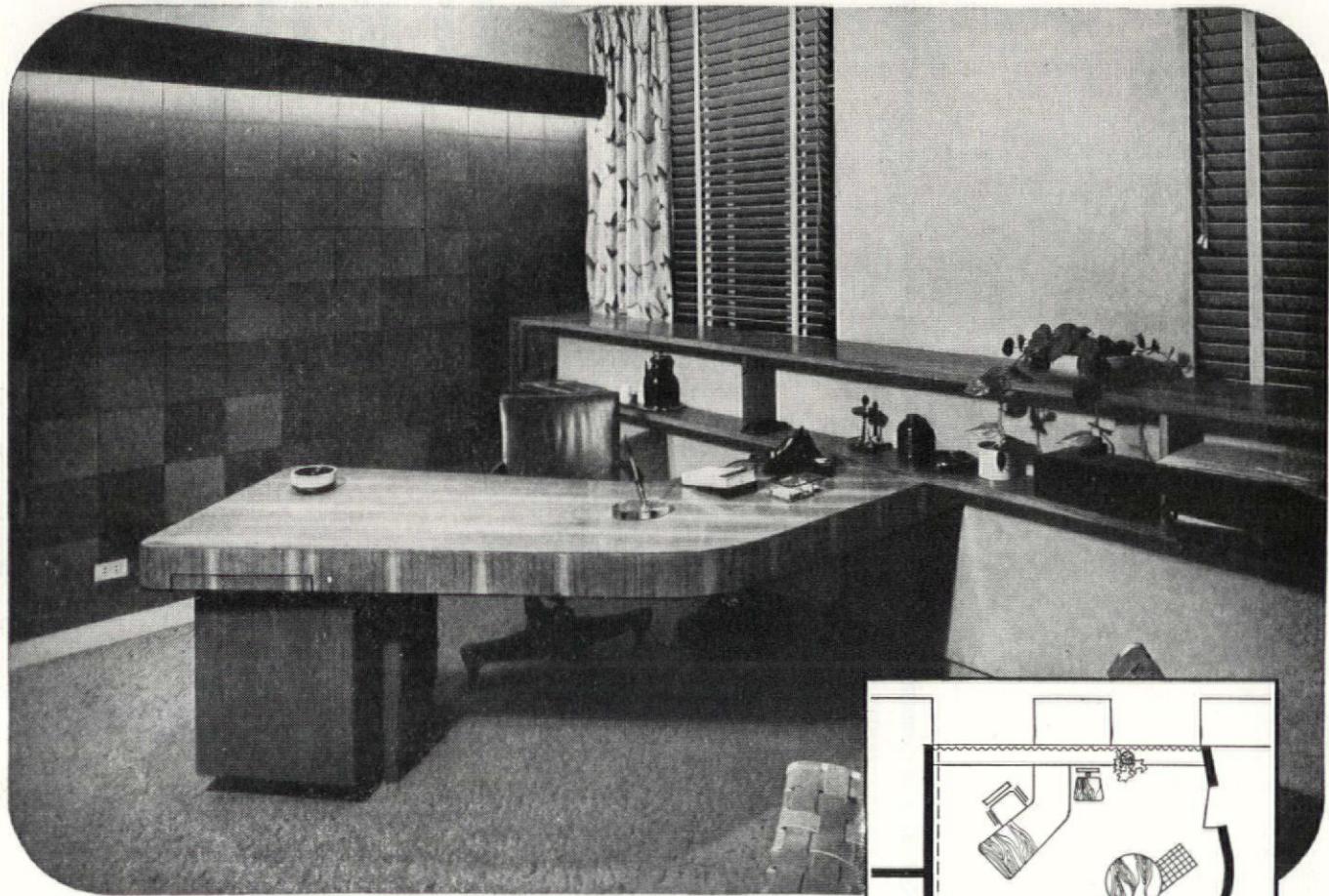
The Architectural FORUM is published monthly by TIME Inc., 350 Fifth Ave., N. Y. 1, N. Y. Subscription may be sent to publisher's office or to 540 North Michigan Avenue, Chicago 11, Ill. Address all editorial correspondence to 350 Fifth Ave., N. Y. 1, N. Y. Yearly subscription payable in advance. To Firms and Government, their supervisory employees and design staffs, engaged in building design, construction, management, finance, materials manufacture or distribution: U.S.A., Possessions and Canada, \$5.50; Pan American Union, \$6.50; Overseas Countries, \$10.00. To all others: U.S.A., Possessions and Canada, \$8.50; Pan American Union, \$9.50; Overseas countries, \$10.00. When available, single issues, including Reference Numbers, \$1.00. All copies mailed flat. Copyright under International Copyright Convention. All rights reserved under the Pan American Copyright Convention. Entered as Second Class Matter July 17, 1944 at the Post Office at New York, N. Y., under the act of March 3, 1879. © 1947 by TIME Inc.

TIME Inc., Time and Life Bldg., Rockefeller Center, New York 20, N. Y., also publishes TIME, LIFE and FORTUNE. Chairman, Maurice T. Moore; President, Roy E. Larsen; Vice President & Treasurer, Charles L. Stillman; Vice President & Secretary, D. W. Brumbaugh; Vice President & Sales Director, Howard Black; Vice Presidents, Allen Grover, C. D. Jackson, P. I. Prentice; Comptroller & Assistant Secretary, Arnold W. Carlson; Production Manager, N. L. Wallace; Circulation Director, F. DeW. Pratt. Producer, THE MARCH OF TIME, Richard de Rochemont.

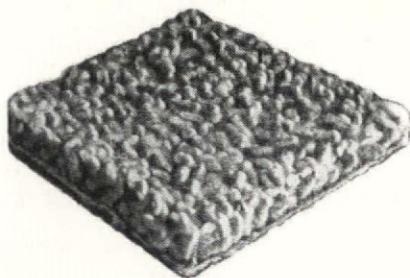
VOLUME 86, NUMBER 3

NEWS	9
LETTERS	22
FORUM	50
ANNOUNCEMENTS	54
HOUSES	77
Hilltop house and small apartment in California by Gardner Dailey . . . house in Dover, Massachusetts, Eliot F. Noyes, architect . . . house in Evanston, Illinois, William F. Deknatel, architect.	
TWO TICKET OFFICES	87
Primitive art, eye-catching color and tropical planting sell passersby the idea of a South Seas cruise. Raymond Loewy Associates, designers. . . . Scientific routing of passengers and baggage helps make travel a pleasure rather than an ordeal. Skidmore, Owings & Merrill, architects.	
MILL GUEST HOUSE	94
A friendly addition to a Maine industrial plant proves a real asset. Eaton W. Tarbell & Associates, architects.	
HOUSES U.S.A.	97
A brief review of the development of domestic architecture in America. Part II, 1820-1946, the Revivals and Eclecticism.	
GREATEST HOUSEBUILDING SHOW ON EARTH	105
Ringmasters Kaiser and Burns prefabricate a standard house chassis, finish it in the field with myriad variations, sell it with brassy fanfare.	
PRODUCTS AND PRACTICE	114
Microclimatology—provocative facts on "breathing-line" weather.	
REVIEWS	130
Exhibitions . . . Effect of the Corporate Income Tax on Investment in Rental Housing . . . Hospitals, Integrated Design . . . Your City Tomorrow.	
BUILDING REPORTER	162
Frozen food cabinet . . . smokeless coal heater . . . suspended unit heater . . . plastic coated fabrics . . . hydraulic elevators.	
TECHNICAL LITERATURE	184
Aluminum alloys and mill products . . . roofing and siding . . . photomurals . . . sound systems.	

Cover photo: (TWA Ticket Office) Hedrich-Blessing



Let's get to the bottom
OF OFFICE PLANNING
... WITH
BIGELOW
RUGS



BIGELOW CURLWEAVE
A new Lokweave development

Here's a manager's office that shows what good planning can accomplish. In a relatively small area, modern design has created ample working, conference and display space, a feeling of dignity and roominess. When you get right down to it, there's one thing that gives this office . . . or any office . . . beautiful, yet quiet simplicity. That's the floor covering of Bigelow Contempora.

Bigelow Contempora is a luxuriously sculptured carpet that adds richness and color to office design. It's Lokweave too . . . made by the special Bigelow weaving process that means no installation waste. Lokweave carpeting stands up longer, is durable and thus truly economical. Bigelow's Carpet Counsel will help you choose from a complete line of better-than-ever floor coverings.



BIGELOW-SANFORD CARPET CO., INC.
 140 MADISON AVE., NEW YORK 16, N.Y.

PRESENTING THE NEW, MODERNIZED



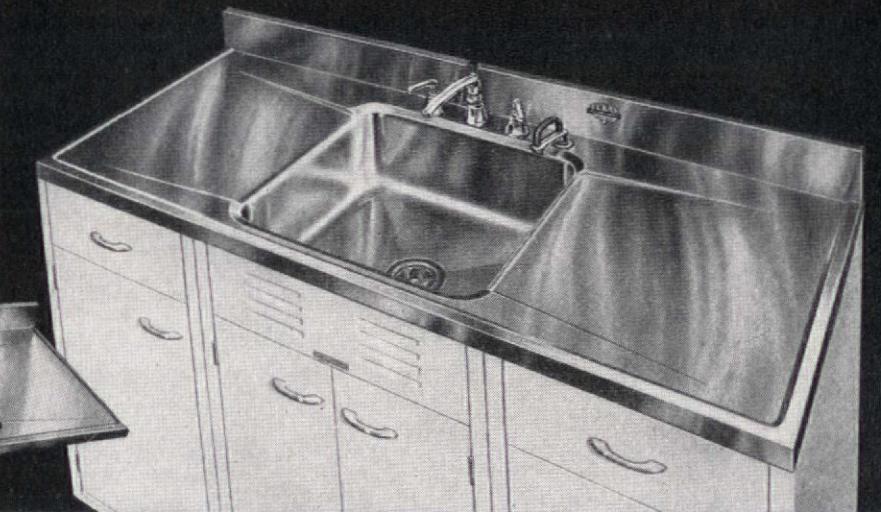
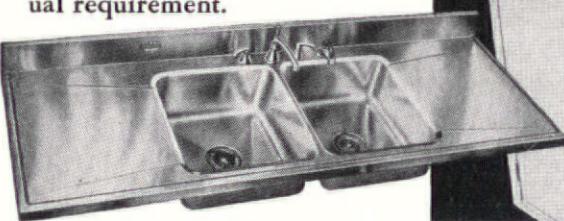
ELKAY Lustertone

STAINLESS STEEL CABINET SINKS

Whether your contract calls for a new construction job or a modernization project, there's an

ELKAY Lustertone CABINET SINK

that will meet every individual requirement.

9 Points of Superiority

- 1 ELKAY "Lustertone" Cabinet Sinks are built of 18 U. S. standard gauge (extra heavy) genuine solid 18-8 stainless steel.
- 2 The stainless steel tops are bonded to and reinforced with heavy gauge formed metal.
- 3 Drainboards, sink bowls, rims, and splashes are welded integral into one sheet of metal.
- 4 All corners in sink bowls—horizontal, lateral and vertical—are rounded to 1 1/4 inch radius.
- 5 Intersections where sink bowls meet drainboards are welded and rounded to a large radius.
- 6 Intersections where drainboards meet back and return end splashes and where back splashes meet return end splashes have rounded corners.
- 7 Drainboards have a definite, liberal fan shaped pitched area insuring positive drainage.
- 8 Front and back surfaces adjacent to the sink bowls are pitch-beveled to provide additional drainage.
- 9 Entire underside of sink top and bowls is sound deadened.



These bowls can be supplied in any size to meet individual requirements. Built of 18 gauge stainless steel. All corners are coved to 1 1/4" radius. They are made with 1" flat rim or with shelf for deck type faucets. These bowls are especially designed to be used with linoleum or other composition tops.

5 Standard Sizes

ELKAY "Lustertone" Stainless Steel Cabinet Sinks are offered in five standard sizes. The 54 inch and 60 inch sinks are furnished with 18" x 20" single bowls; the 72 inch sinks are furnished with either 18" x 25" single bowls or 18" x 34" double bowls; the 84 inch sinks are furnished with 18" x 34" double bowls. All bowls are 7 1/2 inches deep. ELKAY "Lustertone" Sinks are equipped with stainless steel basket type strainers. They can be supplied with the latest design "Deck type" chrome finished faucets and spray. All standard sinks have 4 inch back splashes.

CUSTOM-BUILT SINKS

In addition to these five standard sizes, ELKAY Stainless Steel Cabinet Sinks can be supplied in any size and shape to meet individual requirements. Send us your specifications.

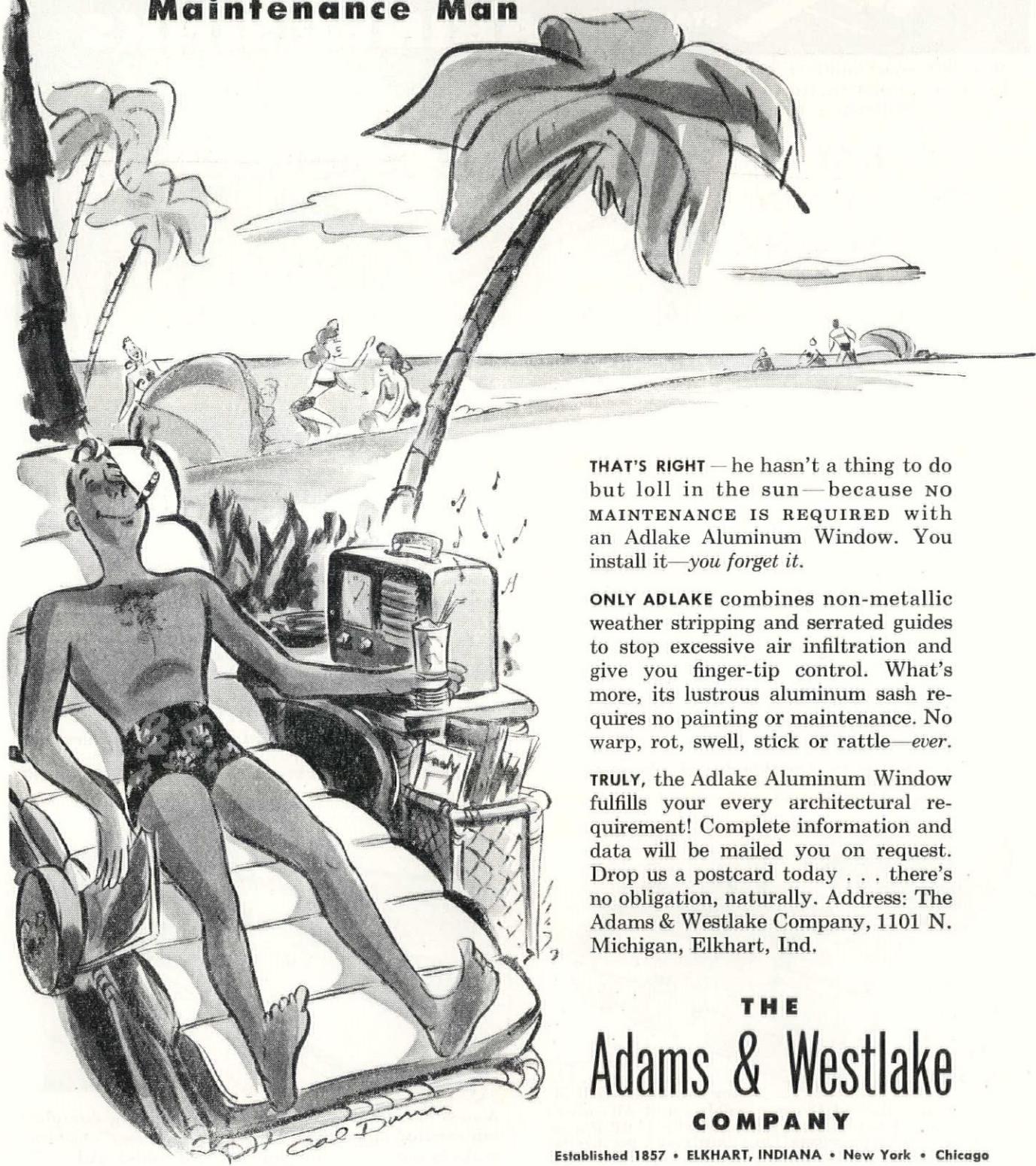


A new beautifully illustrated Folder giving complete information about the ELKAY "Lustertone" Cabinet Sinks is now ready for you. Send for folder A.F.-147.

ELKAY PRODUCTS ARE AVAILABLE THROUGH PLUMBING CONTRACTORS

ELKAY MFG. CO., 1874 South 54th Avenue, Chicago 50, Illinois

**Meet the
Adlake Window
Maintenance Man**



THAT'S RIGHT — he hasn't a thing to do but loll in the sun—because **NO MAINTENANCE IS REQUIRED** with an Adlake Aluminum Window. You install it—you forget it.

ONLY ADLAKE combines non-metallic weather stripping and serrated guides to stop excessive air infiltration and give you finger-tip control. What's more, its lustrous aluminum sash requires no painting or maintenance. No warp, rot, swell, stick or rattle—ever.

TRULY, the Adlake Aluminum Window fulfills your every architectural requirement! Complete information and data will be mailed you on request. Drop us a postcard today . . . there's no obligation, naturally. Address: The Adams & Westlake Company, 1101 N. Michigan, Elkhart, Ind.

**THE
Adams & Westlake
COMPANY**

Established 1857 • ELKHART, INDIANA • New York • Chicago



FURNISHERS OF WINDOWS TO THE TRANSPORTATION INDUSTRY FOR OVER 30 YEARS

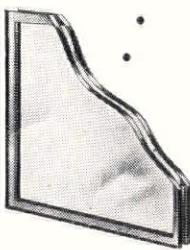
Thermopane

REG. U.S. PAT. OFF.

NOW MADE IN

55

STANDARD SIZES



*Thermopane**, the original windowpane that insulates, keeps on gaining in popularity. Its insulating efficiency makes practical the modern trend to larger windows in architectural design... an efficiency proved through actual use from Iceland to Mexico.

That's why we have expanded our standard sizes to 55—based on American Standards' Association 4-inch modular

PICTURE WINDOWS ($\frac{1}{4}$ " Plate Glass and $\frac{1}{2}$ " air space)	
Width	Height
35 $\frac{1}{2}$	48 $\frac{1}{8}$
55 $\frac{1}{4}$	48 $\frac{1}{8}$
75	48 $\frac{1}{8}$
35 $\frac{1}{2}$	60 $\frac{3}{8}$
55 $\frac{1}{4}$	60 $\frac{3}{8}$
75	60 $\frac{3}{8}$
42	66
42	72
84	66
84	72
96	66
96	72

DOUBLE HUNG WOOD WINDOWS

(DSA Window Glass and $\frac{1}{4}$ " air space)

2-Light	4-Light
Width	Height
24 x 24	24 x 11 $\frac{5}{8}$
28 x 24	28 x 11 $\frac{5}{8}$
32 x 24	32 x 11 $\frac{5}{8}$
36 x 24	36 x 11 $\frac{5}{8}$
40 x 24	40 x 11 $\frac{5}{8}$
44 x 24	44 x 11 $\frac{5}{8}$
24 x 28	24 x 13 $\frac{5}{8}$
28 x 28	28 x 13 $\frac{5}{8}$
32 x 28	32 x 13 $\frac{5}{8}$
36 x 28	36 x 13 $\frac{5}{8}$
40 x 28	40 x 13 $\frac{5}{8}$
44 x 28	44 x 13 $\frac{5}{8}$

RESIDENTIAL STEEL SASH

(DSA Window Glass and $\frac{1}{4}$ " air space)

Width	Height
16 x 12	14 x 10
16 x 11 $\frac{5}{16}$	14 x 9 $\frac{5}{16}$
14 x 12	14 $\frac{3}{4}$ x 12
14 x 11 $\frac{5}{16}$	17 $\frac{1}{4}$ x 12
	12 x 12

construction. This means greater design flexibility for the architect, more opportunity for the use of this time-proved insulating glass unit.

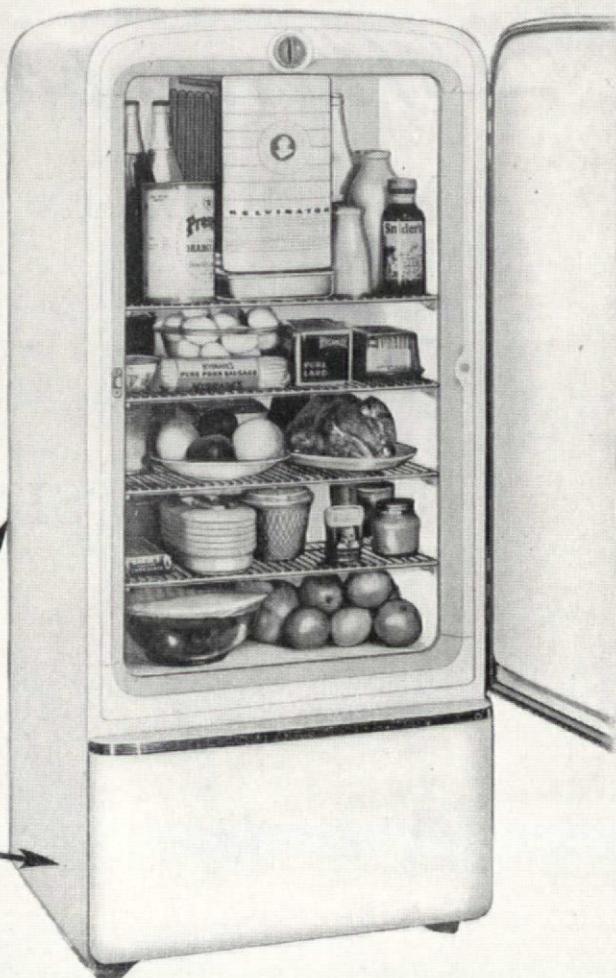
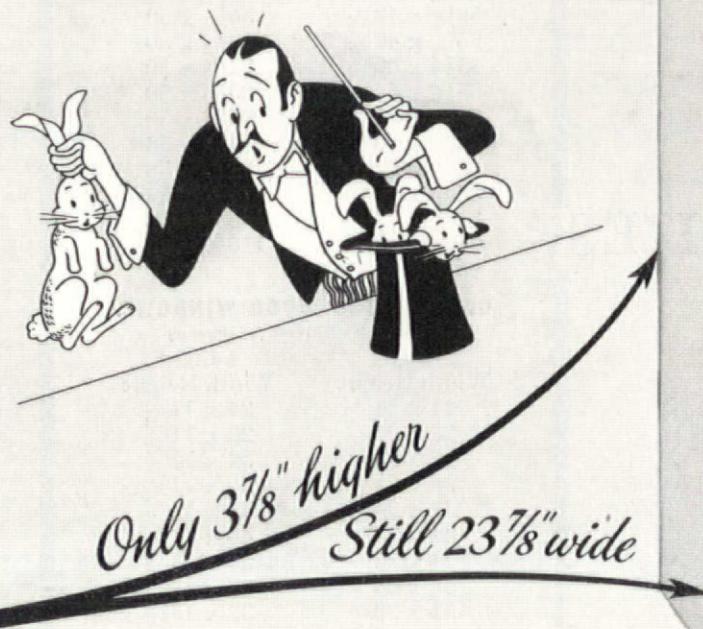
Consult your nearest L·O·F distributor for latest information about delivery dates and the complete range of non-standard sizes. Or write for our latest *Thermopane* folder. Libbey·Owens·Ford Glass Co., 2137 Nicholas Bldg., Toledo 3, Ohio.

*Reg. U.S. Pat. Off.



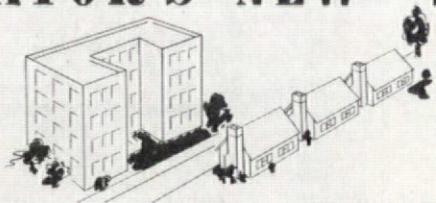
LIBBEY·OWENS·FORD
a Great Name in **GLASS**

Holds 50% more...
uses no extra floor space!



See KELVINATOR'S NEW "SPACE SAVER"!

FOR APARTMENTS



AND LOW COST HOMES

Introduced only two months ago, Kelvinator's new "Space Saver" Refrigerator has become one of the year's most talked about developments among builders and architects.

They have found it the ideal answer to that problem of providing a family-size refrigerator and also allowing extra space for other labor-saving electrical appliances.

See it to appreciate how Kelvinator engineers and

designers have achieved 50% more room—a grand total of 6 cubic feet of storage—in a cabinet only 3 7/8" higher and using no more floor space than preceding 4 cu. ft. models. And note, too—that's it's a Kelvinator . . . quality through and through, from its handsome Permalux finish to its famed Polarsphere cold-making mechanism with an outstanding record of trouble-free performance.

AND LOOK AT THESE FEATURES!

High Speed Freezer—Made of stainless steel for permanence, beauty . . . faster, concentrated cold. Frozen food storage, too.

Room for Tall Bottles—Extra room for tall bottles on both sides of freezer. Greater height between shelves increases storage.

Handy Chilling Tray—Dual purpose, chilling and defrosting tray . . . an unbreakable, drawn aluminum container.

Sturdy Shelves—Made of closely welded steel bars, plated to keep their brightness. Dishes slide easily but won't tip over.

Beautiful Exterior—Made of welded steel with a lustrous, long-wearing Permalux finish . . . completely stain-resistant.

Kelvinator



DIVISION OF NASH-KELVINATOR CORPORATION, DETROIT



REFRIGERATORS • ELECTRIC RANGES • HOME FREEZERS • WATER HEATERS

NEWS

PRICES

Big contractors expect stabilized prices and volume building soon

p. 9

WASHINGTON

Rent boost truce

p. 12

Controls crumble

p. 12

Public housing for rent to veterans

p. 12

PREFABRICATION

Operative housebuilders back factory house

p. 12

LABOR

Pact to end strikes

p. 14

Apprentices showing up on building jobs at highest rate in 20 years

p. 14

DESIGN

United Nations drafting room is already at work

p. 11

Churches plan \$650 million building job

p. 14

Design moves merchandise in Hoving stores

p. 15

BUILDING MONTH. It was a hesitant month: the industry seemed finally to have reached the end of a long hard winter of war and reconversion, but it had not yet felt anything resembling the genial warmth of spring. Normalcy had not yet been gotten back to, and it was becoming steadily more apparent—even to the most resolute normalists—that nobody knew what, if anything, normalcy was or if, indeed, we had ever been there at all. It was equally clear that for Building, as for the rest of the U. S., the iridescent postwar dreamworld had soundlessly melted, like a plastic mix that just didn't jell. But exactly what Building was getting on to, it was hard for anybody to say. There were, as always, plenty of straws in the wind—there were, in fact, dozens of them and they were all pointing in different directions.

The momentary hesitancy was apparent in Chicago where five thousand home builders gathered to tell each other just how things were going. This year it was different: the tyrannical face of the federal government had almost disappeared from view (Frank Creeden appeared long enough to report big boosts in rent limits on new construction in Chicago and New York). There was almost nothing left to be against (the builders took it out in exchanging a few slugs with organized labor). But as to exactly what they were for, the builders (trading a few troublesome reports of new houses too high-priced to connect with buyers) were less sure than ever.

Man in the Street. Gallup found the man in the street just as worried as he was last year. His No. 2 worry (cost of living was No. 1): where to find a place to live. The National Association of Real Estate Boards did not suggest that the opinion of the man in the street was an unfair measure of the opinion of countless people indoors, but it did say firmly that a mere 1,500,000 houses would take the edge off the Great Housing Shortage. Provision of just 100,000 more, NAREB added, would be dangerous; this would mean market saturation.

Real estate activity generally was still dropping gently from its peak last spring. But, despite war and reconversion, Metropolitan Life happily reported a substantial profit on the invested funds of its 32 million policy holders and said it had liquidated almost all of its foreclosed real estate, having on hand now only a paltry \$32 million worth, or about one-third the amount it has invested in new housing.

Man with a Gun. It was a hard month for landlords. Even dignified Republican Senator Tobey was moved to levity by some of the exhibits of the downtrodden property owner which the lobbies produced for rent control hearings. In Washington and New York, apartment owners rose against rooftop installation of television antennae as bulky and dangerous ("Just another growing pain," television spokesmen said calmly), only to hear that a British inventor had taken out a patent on a helicopter landing platform guaranteed to turn any man's house into an airfield. In San Francisco, a 63-year-old landlord shot and killed two tenants, whom he had been unable to persuade to move. "They just made too damn much noise," he told police.

Everywhere the clotted cities were having transit troubles. In San Francisco,

sentimentalists kicked up a row about the threatened passing of the cable cars. In New York, Bellevue hospital set up a disaster unit staffed by two surgeons in preparation for hearings on raising the subway fare, evidently expecting something like the five o'clock rush. The *Washington Star* nosed out of government files a dreamy proposal for a Federal City where PBA seemed to think 221,000 persons would be living in the 21st century. Belatedly designed for the "motor age", the plan called for a 72-mile-square site adjoining the present capital, to be divided into 35 cells "like living tissue" by dual super-highways.

Gadgets. In Brazil, where skyscrapers are going up as fast as Quonset huts here, the biggest shortage was in building sites, and one enterprising contractor blasted away a mountainside to get a place to build a subdivision. But in the U. S. the gadget designers were, as usual, busier than anybody else, and by month's end had produced: a \$7,000 desk, equipped with bar, electric razor, sun lamp, and a magnetic holder which would suck a tossed pen into place; an almost self-sufficient typewriter which would make up business letters from various combinations of recorded sentences; a pullman berth which an athletic passenger might possibly be able to lower without troubling the porter. They were, however, still baffled by a device to slow up the snapping-turtle doors in which New Yorkers have been catching their arms and legs ever since the unwelcome advent of the single-deck Fifth Avenue bus.

Troubles. But although it was hard to say just why, things did seem to be looking better. The two rival garden clubs of Natchez, Miss., who have not spoken to each other for a decade, finally composed their differences. This year visitors to the famous Natchez spring pilgrimage will for the first time be able to see all the antebellum homes in the vicinity on one tour. St. Patrick's Cathedral, which has for the last year been stripping down its sensitive Gothic carving to a point where it can stand up to New York winters, said that, barring strikes and bad weather, it would be free of scaffolding in time for Easter. Writing in the *Times*, shirt-sleeve planner Robert Moses said New York was going to be quite a town in 1960, but happily looked forward to "new problems . . . for man is born unto trouble as the sparks fly upward and, without trouble, would become flabby, bored, atrophied and useless." Everybody seemed to feel that it was going to be a nice spring.

PRICES

BUILDING HOLD-UP

Price stability and Big Building are not far ahead, top contractors say.

Would the boom building market stumble on climbing building costs? Big building contractors queried last month by the FORUM agreed that a big volume of work is now stalled by prices. But most believed that price stability is not far off, and that stability will mean Big Building. This is what they said:

M. E. Kalette, James Stewart Co., New York: A combination of high costs and unpredictability of costs is holding up construction. Unpredictability is more important. There are occasions when high costs can be justified on the basis of emergency and need, and work will go ahead. Even if it's high, people know what price they can expect to pay. Right now even lump-sum prices are subject to change. Costs are unpredictable not because of wage rates—these can be stabilized by agreement—but because of delays in equipment. Only a general release of supplies throughout the materials and equipment industry will stabilize building costs. A great volume of industrial construction remains to be done. Far from cutting off the market for industrial building, war plants are the greatest construction stimulus this country has ever known. Every industry with a DPC plant has rendered obsolete every other plant.

Robert Dowling, City Investing Co., New York: Present high costs are meaning both delay and abandonment of apartment construction. My guess is that prices will soften somewhat this fall and somewhat more next

fall. Labor costs are very important in present high costs levels, due to scarcity and inefficiency. Right now a luxury-type apartment house costs about \$1.50 a cubic foot. A drop of one-fifth to one-fourth would encourage apartment construction. Costs are 60-70 per cent higher than 1941.

Admiral Ben Morrel, Turner Construction Co., New York: Tabulation shows that, of projects coming through our New York office alone over the last 12 months, some \$48 million worth have been held up because of prices. There are undoubtedly a lot of delayed projects which we haven't even seen, but this figure covers only projects where owners have asked us to figure for them. If the present price situation lasts too long, it will result in definite, permanent shelving of some jobs. If we can be jolted off the high price shelf, most jobs will go ahead.

As the effects of the removal of restrictions are felt, material costs will come down and material supplies will increase (research data indicates that in most lines of materials there will be a surplus in 1947 compared to estimated requirements). Everything depends on stabilization of labor costs, and this does not mean decreases in labor rates. In order for work to go ahead what is more important than bringing prices down is stability. If costs can be stabilized so that the competition and ingenuity of the building contractor can go to work, we will bring those prices down.

George A. Bryant, Austin Co., Cleveland: Month by month a growing volume of work is being placed with us, but undoubtedly much industrial construction is being delayed by high prices. Orders for construction being placed now are from firms which

just can't afford to wait for prices to fall before they build. One firm, for instance, figured it could pay the cost of a new plant in two or three years and would miss the market entirely if it didn't build now. We tell clients to build only that which is necessary, vital and will pay for itself quickly.

We don't look for a sharp drop in construction costs soon. Prices of materials are leveling off and, by mid-year, should decline to some degree as supply begins to meet demand. Labor costs, however, will stay up. Hence, despite lower costs of materials, it is not likely that there will soon be an appreciable recession in building costs, which are now 60½ per cent higher than 1941, according to our index.

The great volume of postwar industrial construction has not begun to be tapped. Stabilized prices and plentiful materials should release a tremendous volume.

C. F. Sieber, H. K. Ferguson Co.: We specialize in construction of industrial chemical plants. People in that line can't afford to wait for lower prices before building. So, our work is booming. But undoubtedly much work not immediately necessary is being held up by high prices.

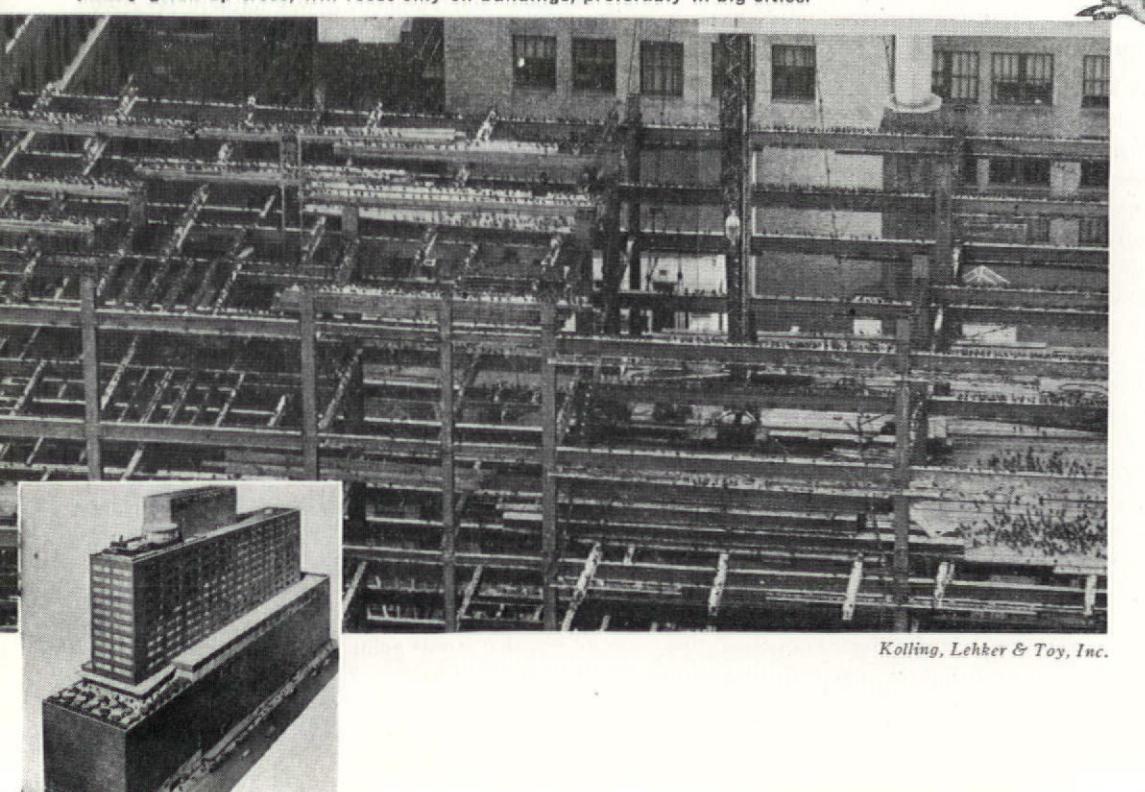
Construction costs won't come down soon, but we don't think they will go higher. Prices of materials are leveling off and probably will stay where they are. Labor costs also should remain fairly constant in the next year. We're hoping that increased labor efficiency will give more production for the same money but this is an intangible upon which we can't count.

Building costs now range from \$3.50 a sq. ft. for the simplest type of construction, such as a warehouse, to about \$5.50 up to \$7.50 a sq. ft. for a factory. These figures represent an approximate increase of 60 per cent over 1941 costs. Stabilized prices and plentiful materials will set a large volume of industrial construction projects in motion.

Albert Kahn Associates, Detroit: Much work, both public and private, is being held up now because of high prices. No price drop is expected soon. Lower prices depend upon increased labor productivity in the building trades and supplier industries and an end to strikes. The average cost of factory construction is now \$6.50 to \$9.00 a sq. ft. depending on requirements and details. In 1941 the comparable figures were \$4.00-\$6.00.

The cream of postwar factory building is not entirely skimmed off. The period of rush work, of immediate must projects, is largely past, but many new projects which from the builders' point of view are more desirable than much of the work on additions and alterations in the reconversion period remain to be carried out. Plentiful materials and stabilization of prices would probably result in an increase in volume but no immediate boom. Volume of industrial and commercial construction in coming years will be largely dependent upon

(Continued on page 12)



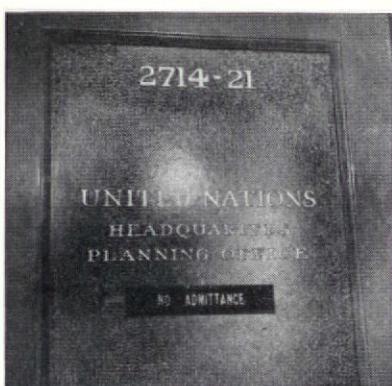
Kolling, Lehker & Toy, Inc.

UNITED NATIONS: MEN AT WORK

Keystone



HEADQUARTERS ADVISORY COMMITTEE (l. to r. at head of table) Secretary-General Trygve Lie, U. S. Warren Austin, Planning Director Wallace Harrison, committee secretary Glenn Bennett.



Wallace Harrison thought the first skyscraper, a 40-story building, could go up in 20 months. Nicholai Bassov, the Soviet engineer who is believed to have established a world construction speed record at Stalingrad during the war, agreed. LeCorbusier was already hard at work, leaning over his drafting table in the planning office in the RKO building, where Manhattan's skyscrapers tower on every side like a challenge to the men who have promised to top the record of the best of them. Howard Robertson had just arrived from England; Dr. Ssu-Ch'eng Liang, who represents China on the board of design, was commuting from Yale, where he is teaching; Oscar Niemeyer of Brazil would soon be here. Draftsmen (borrowed from Harrison's office and from the other three participating U. S. firms, see cuts) were already busy outlining alternative solutions for locating the five basic UN units on the East River site. The steel companies had promised top priority. Labor had promised "continuous operation." Everything was moving on the double; everybody wished permanent peace was as close as UN's permanent building seemed to be.



DIRECTOR HARRISON (r.) and Nikolai Bassov, U.S.R. (c.) with translator Serge Wolff.

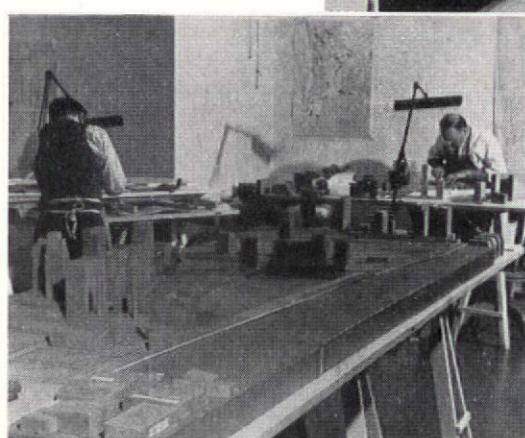
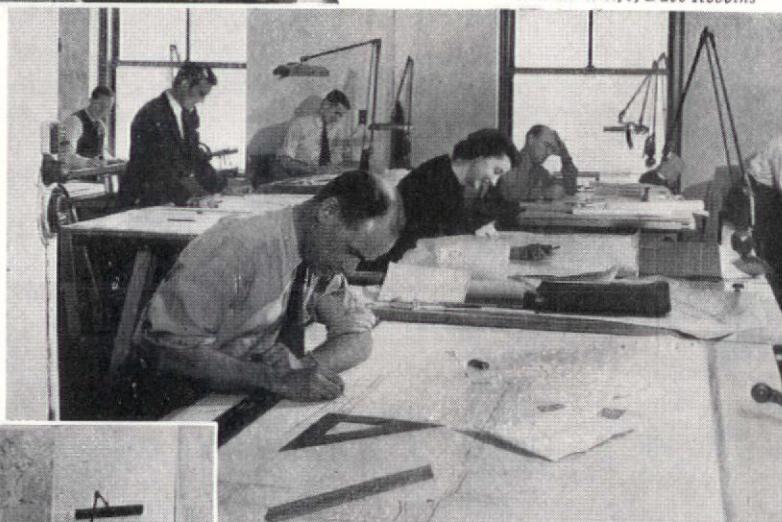


BRITAIN'S Howard Robertson looks on as France's Le Corbusier sketches.



CHINA'S Dr. Ssu-Ch'eng Liang with committee secretary Bennett.

Werner Wolfe, Dave Robbins



PARTICIPATING ARCHITECTS
Ralph Walker and Louis Skidmore welcome Britain's Robertson.



SITE PLANNER Gilmore Clarke with architect George Dudley.



HARRISON with members of his office: Oscar Nitzchke, Harmon Goldstone, Max Abramovitz.





Republican Senator Charles Tobey, chairman, Senate Banking Committee:

Let us heed the inarticulate voice of the slum dwellers, as well as that of the property owners.



George Englar, National Apartment Owners Association:

There are eight million victims of OPA discrimination . . . Thousands of rent units throughout the country are on strike . . .



Seddon Etherton, Mich. Property Owners Assoc.:

Rent control is licensed larceny . . . It did not aid the war worker, it only gave him more money to spend in the beer garden.



Herbert Nelson, Natl. Assoc. Real Estate Boards:

Rent control is a plot to turn private property into a public utility.



Margaret Springer, Rose Canan, property owners:

Rent control is a menace to our American liberty and freedom.



Arthur Binns, Natl. Foundation Property Owners:

Rent decontrol will mean the end of housing shortage.



Alfred Stern, Emergency Comm. on Rent, N. Y. State:

Rent control must stay . . . The American people will not stand for being thrown out on the street.



Gen. Philip Fleming, head, Office of Temp. Controls:

Shortage of funds may stop rent control enforcement.

the extent to which firms can accumulate reserves and public savings to finance replacement of obsolete plant.

Harry H. Hilp, Barrett & Hilp, San Francisco:

Some construction work is being held up locally because of high prices, but delays are more on account of CPA confusion and scarcity of materials. There's much more work to be done if we could get a definite green light from CPA. We have a contract to build a new Medical-Dental building on Post street. In August 1945 we could have built it at a cost of from \$13 to \$14 per sq. ft. if CPA had let us go ahead. Now the cost is up to \$19 or \$20 and construction is delayed for that reason. This figure is typical of current office building construction costs in San Francisco. Between \$12 and \$15 a sq. ft. would be the current average on Class A apartment house construction. By our own yardstick, building costs are up 100 per cent over 1939 and about 75 per cent over 1941.

continued rent control, but many believed the order limiting nonresidential construction would soon be allowed to lapse.

Two more premium payment plans—covering lumber in Washington state forests and nails—will end on March 31. Premiums for cast iron soil pipe and pig iron will end on June 30. Housing Expediter Frank Creedon has already promised to ease up on the requirement that builders must hold a house for 60 days for possible veteran purchase. Exactly how easement will work has not yet been decided. One possibility: the 60-day waiting period might be counted from the start of construction, instead of from completion.

PUBLIC HOUSING FOR VETERANS

Douglas bill for low-rent construction.

Liberal Congresswoman Helen Gahagan Douglas (Dem., Calif.) decided it was time for some public action on veterans' rental housing. Said she: "The veteran is not a buyer; he is a renter and he can only pay from \$30 to \$50 a month. Millions of veterans are looking for rentals at that price and cannot find them because they do not exist under any housing plan now under consideration." Forthwith, Mrs. Douglas introduced a bill which, by adding a new title to the U. S. Housing Act of 1937, would provide:

- \$1 billion in federal loans to local public housing authorities for construction of veterans' rental housing. Loan period would be 60 years, interest 2½ per cent.
- \$20 million in annual federal subsidies to insure moderate rents.

Only veterans whose incomes are not more than six times the rents stipulated could be admitted to projects. Mrs. Douglas made it clear that her bill was intended as no substitute for a long-range public housing program, but only for emergency action imperatively needed now.

PREFABRICATION

QUIET REVOLUTION

Operative builders take to factory house as end to material worries.

Although much of the postwar dream world had dropped quietly into the wastebasket with the used advertising copy, one part of it had come true. The revolution in housebuilding was no longer just around the corner. Born at last of war metal-working techniques, the industrialized house, in a dozen different versions, was a reality.

One sign of this quiet but decisive revolution was the alacrity with which operative housebuilders had turned to the factory-built house. Shortage of conventional building materials had given a tremendous opening to the factory builder who could promise to deliver a house in one piece. Some of these developers laced the factory-built units with conventional construction for variety.

Washington let it be known that, except for processing a few already in the mill, no

CONTROLS DIE

60-day waiting period to be eased.

Tart Jesse Wolcott, chairman of the House Banking Committee, summed up the Republican attitude on continuation of building controls: "Before we go home, we should make certain that continuation of the Patman Act will not do more to discourage building from now on than to promote it." But most of the building controls authorized by the Patman Act were already melting away.

The House had refused to vote any more money to continue the administration of rent control and the building limitation order. It seemed likely that money would be squeezed out in some way or other for

more guaranteed contracts will be let for factory-built houses (there will be more contracts covering new building materials; hardwood-surfaced plywood flooring is an example of applications now under consideration). But the ten guaranteed market contracts already signed and the few still pending would, Housing Expediter Frank Creedon figured, mean production of 100,000 factory-built houses this year. The more conventional prefabs, going ahead without benefit of government coverage, were expected to produce another 150,000 houses. Last month's heavy bundle of news from the industrialized sector of the industry spotlighted these leading contenders in the 1947 market:

Lustron Corp. and General Homes (see *FORUM*, Feb. '47) decided to share a Curtiss-Wright airplane plant in Columbus, O. Finally securing its hotly debated RFC loan (\$12½ million), Lustron scheduled a monthly output of 2,500 houses by next September. Its "Esquire" (built-in furniture) porcelain enamel steel house will sell (erected but

Charles E. Moore



General Homes house

without land) for about \$7,100.

General Homes has a \$225,000 RFC loan and a guaranteed market contract covering 1,700 aluminum panel houses. Its complete house (erected, without land) will sell for \$5,865.

Clements Corp. MacMillan Clements, who developed steel-and-plywood containers for high explosives and gun powder during the war, has turned his know-how to housing. With the aid of a \$1,100,000 RFC loan and a guaranteed market contract for 2,500 houses, this firm expects to reach an output of 300 houses a month by September. Allegheny-Ludlum fabricates .0008-inch steel strip for this house, ships it to U. S. Plywood for bonderizing to fir plywood. Steel-and-plywood sheets are then shipped to the Clements plant for grooving and folding into hollow panels, which are filled with a cotton insulation. The steel surface is cleansed and pickled to a dull finish.

The Clements house package (including all structural elements but not plumbing or wiring) will sell to dealer-distributors for about \$3,000 f.o.b. Yonkers. This 720 sq. ft. house is expected to sell to customers for not more than \$7,500, including land.

Higgins Homes, Inc. Shipbuilder Andrew J. Higgins landed a \$9 million RFC loan and promised 70 houses a day from the warplane plant near New Orleans which he has leased from the government. Higgins ships enameled steel panels in a variety of

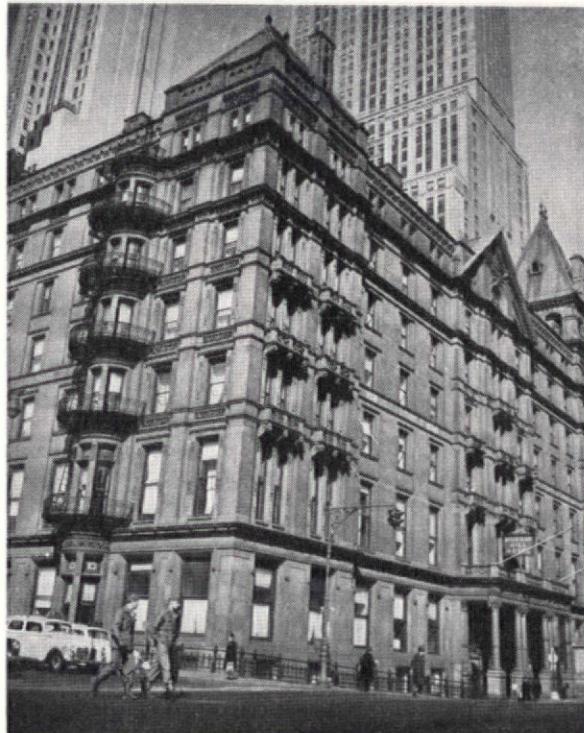
(Continued on page 14)

LAST OF THE OLD LADY

When this pressed-brick-and-granite relict of the elegant eighties was built on Murray Hill, Grand Central station was a rambling frame terminal from which travelers arrived in hansom cabs, Broadway's white lights glittered at 14th street, and New York's smart shopping center was on the lower East Side.

The famous old Victorian who has held her place against business upstarts for 62 years is now doomed to make way for a 30-story office building, with demolition stayed only by housing crisis and the fierce legal battle waged by old residents. Long-time bon vivant owner Benjamin Bates operated the hotel "for pleasure", loved her so much he refused to have her red face washed except by hand.

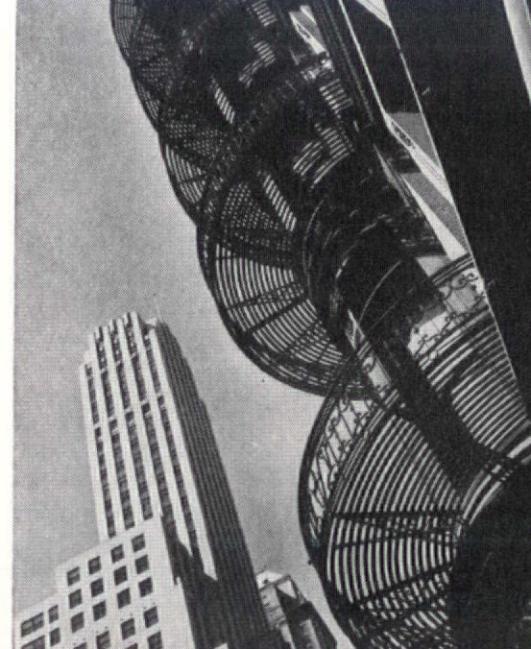
Photos: Fenno Jacobs, William Pruzan



SKYSCRAPERS now tower over Murray Hill hotel on every side. J. P. Morgan, who used to step over to dinner from his house on 36th street, fought a losing battle to preserve the residential character of this midtown neighborhood.



CHERRYWOOD HORSESHOE BAR, handcarved and trimmed with cupids, is where Mark Twain, a long-time guest, leaned between billiard games. It also reflected the white ties of Presidents Cleveland and McKinley, Diamond Jim Brady, P. T. Barnum, Tammany boss Richard Croker, all of whom are said to have behaved like gentlemen.



HOTEL is a museum of Victorian Interiors and a study in the evolution of U. S. plumbing. Present operators brag that no other New York hotel has rooms big enough to hold furniture in Murray Hill bedrooms.



colors and finishes, sends along his special "thermo-con" mix. Thermo-con, added to cement and water on the job site, provides a fill for the specially designed low carbon steel panels, offering high thermal and acoustical resistance. Enameled steel sash and door frames used in houses will also be merchandised to conventional builders as corrosion-proof and requiring no finish.

The Higgins "thermo-namel" panels offer great construction flexibility. They will serve equally well for the low-cost house backed by the RFC loan and for the 15-room mansion he expects to build for himself, complete with an oval swimming pool, circular bars, circular sunken tubs—all molded from thermonomel. Each of the four Higgins sons will get a thermo-namel house, too.

Tech Process, Inc. Architect George H. Stoner, who worked on the atom bomb plant for Stone & Webster during the war, and engineer Fritz Mergenroth, who helped build some of Europe's massive concrete fortifications, are placing a bet on a steel-and-concrete system adapted from industrial construction. Their house is based on a 9 by 12 ft. panel made by spraying concrete on a steel frame. Panels are not bearing walls; the structure is supported by steel framing. The concrete panels will be fabricated at plants in Boston and Portland, Me. or, for big jobs, at the site. Prices (not including land) have been fixed



Stoner-Mergenroth house

at \$6,000 for a 2-bedroom minimum house and \$8,000 for a 3-bedroom house. The system permits a great variety in plan. This firm is backed by realtor Saul G. Chason, Portland, who plans to erect these houses in planned neighborhoods. A model house will be put up next month for consideration by the Boston Housing Authority.

LABOR

PACT

Building labor and building contractors agree to keep work going.

Building contractors and building labor last month solemnly handed around a peace pipe which, they hoped, would last long enough to make the rounds of local union and employer groups. But scarcely was the

pipe well lit in Washington when 500 striking metal lathers in New York slowed work for three days on \$100,000 worth of public and private housing and 1,500 Jersey carpenters said they were "sick."

These walkouts are exactly what the Associated General Contractors and the AFL Building Trades Department hope to avoid by their national agreement. AGC's Herbert Foreman and AFL's Richard Gray shook hands over a proposal to set up a National Conference Committee with the power to arbitrate local disputes while work continues.

Such a formula has worked well in the electrical construction industry, which formed a Council on Industrial Relations in 1920. The Council established a reputation for fair dealing by refusing to cut wages in a Detroit dispute, one of the first referred to it. Since then it has arbitrated more than 40 local disputes and made its decisions stick.

President Truman had congratulated the construction industry on its effort to make permanent peace. Everybody hoped the Council machinery would forestall costly

work stoppages in the present bull Building market. But there were some facts unpromising enough to dim any starry-eyed view of the industry's new rapport. Biggest of them: the well-known difference between policy piously announced by international officers of the building unions and action taken by the imperious locals. Nor does the arbitration plan cover specialty contractors. Three who took part in all discussions but said they preferred to set up their own machinery are: the Tile Contractors Association of America, the National Association of Master Plumbers, the National Association of Heating, Piping and Air Conditioning. The joint Council would not be permitted to arbitrate disputes between the AFL and any employer "on whose operation a non-union condition exists." Thus strikes resulting from an organizing drive would not be covered.

NEWCOMERS

Union door is finally swinging wide to building apprentices.

For over a year building trade unions have been noisily promising to open the door to apprentices. But only in recent months has the door been visibly swinging wide on a local basis. Breaking through restrictive traditions barring new workers from their guarded ranks, union locals have speeded up apprentice training for the first time in twenty years. A FORUM survey of

key cities found last month that, without special announcement or fanfare, the parade had started. Down the road leading to Building's waiting jobsites was coming a welcome figure—the new building worker. Unlike the average construction worker already on the job, he was young, probably a World War II veteran, with an immediate personal interest in seeing new homes go up. He had other characteristics that the industry was finding likeable. Having seen and helped to hurry-up jobs during the war he had little taste for the spread-the-work tactics of older workers, consequently, he was anxious, when permitted, to try out new tools, materials and methods of work.

Atlanta. Embarking on the greatest apprentice training program in the city's history, Atlanta had some 3,000 apprentices in training. The model apprentice-training program of Atlanta's carpenters had already attracted the attention of General MacArthur who was having it adapted to vocational schooling in Japan. Under it, Atlanta had 557 apprentices in training; only 120 had been enrolled a year ago. Similarly, Atlanta could boast of 135 apprentice electricians, twice last year's enrollment. Most significant element in the story in the Atlanta region was the part played by building materials manufacturers who had sparked training programs in middle-sized cities like Augusta, Brunswick and Athens and even in completely rural districts.

Los Angeles. The prewar ratio of one apprentice to eight journeymen had been raised to one-to-four in this city whose smashing training breakthrough accounted for 7,730 apprentices in building trades courses. These new battalions promise to do much to remedy the chronic slowdown and lowered efficiency with which building employers in the area have charged die-hard union elements. (Example: an LA lather laid 2,000 laths in a day's work early this year. He was reprimanded by the local union and told to keep his output below 1,200 laths.)

Chicago. Nearly 5,000 apprentices are training in Chicago through union and city vocational schools. In addition, 4,000 men over the standard apprentice age—chiefly veterans with building trades skills—were being qualified as journeymen on the basis of their abilities. Many thought this the most hopeful activity on the entire building labor horizon. Chicago builders found that inexperienced, but army-schooled technicians could easily be put to work on large construction jobs, where specialization replaced the "all-around man". The totals on building labor were already encouraging. During the last year 15,000 men joined the ranks of Chicago's journeymen builders.

Detroit. Enrolled apprentices numbered 2,157, including 600 carpenters, 230 bricklayers, 330 electricians, 230 plumbers and 140 painters. Carpenters and bricklayers



FOREMAN

McAvoy



GRAY

had waived traditional journeymen to apprentice ratios, to allow as much as a one-to-one balance between masters and trainees. Carpenter union heads promised to expand the number of apprentices to 1,500 as work becomes available.

Denver. The center of the vast mountain area reported 600 apprentices in the building trades, a bustling total when stacked against last year, when less than 100 were being trained, and bigger than any training program in previous Denver history.

Dallas. 750 apprentices compared impressively with last year's estimate of 125.

Boston. The line-up for apprentice jobs had already outpaced the volume of work ready to absorb new workers. Some 2,000 apprentices were in training.

DESIGN

NO SKYSCRAPERS

Churches will build, but stay out of real estate business.

Protestant churchmen said they will build \$650 million worth of churches over the next few years. None of them will be skyscrapers; this time the churches have decided to stay out of the real estate business. A few have institutional building programs, covering a variety of needs (see cuts).

Although the 36-story building the Methodists built in Chicago's Loop in 1928 still wears its lighted cross, the church (which conducts services on the first two floors) has found this office building a scarcely profitable operation. One Los Angeles church has reported a tidy income from the apartments which occupy the upper floors of its building. But most of the other church ventures into investment building, inspired by the general building excitement of the twenties, have had a sorrier history. This time the churches expect to give their attention to improved plan and construction.

Lighting, for instance, has become a subject of both theologic and architectural importance. Most churches are inadequately lighted, Dr. C. Harry Atkinson, Baptist building counsel, told the North American Conference on Church Architecture in New York last month. In many cases, he said, lighting fixtures have become an "end in themselves" and "objects of idolatrous admiration." Dr. Atkinson wants enough light so that every worshipper can see to read his hymnal. "The marked rise of literacy in recent years and the subsequent increase in congregational participation in the services of worship have created a demand for comfortable lighting."

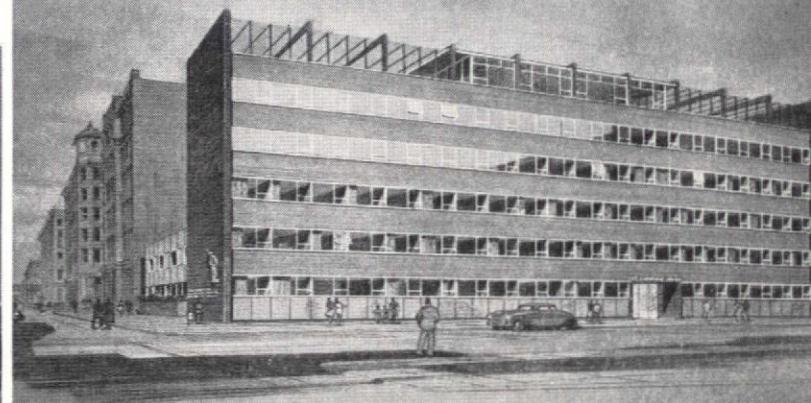
STORES WITH PERSONALITY

What makes a woman buy?

Walter Hoving, well-known in retailing as the ball-of-fire who bounced up from Macy's training squad to become executive vice-president at 30, has never underestimated the importance of design in moving merchandise. "People prefer one store to

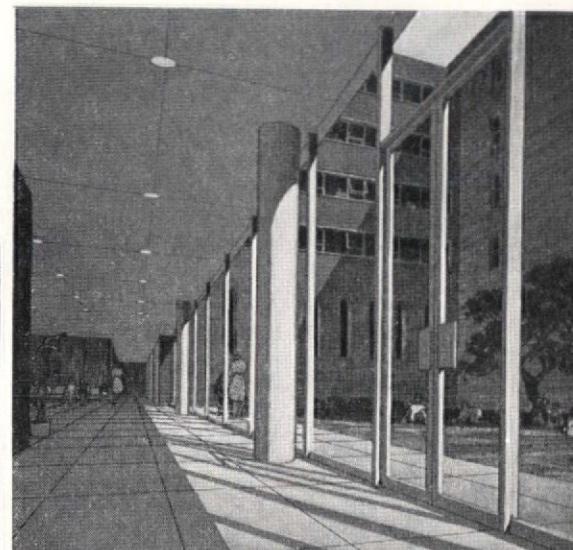
(Continued on page 16)

Jerry Cooke, Pix, Inc.

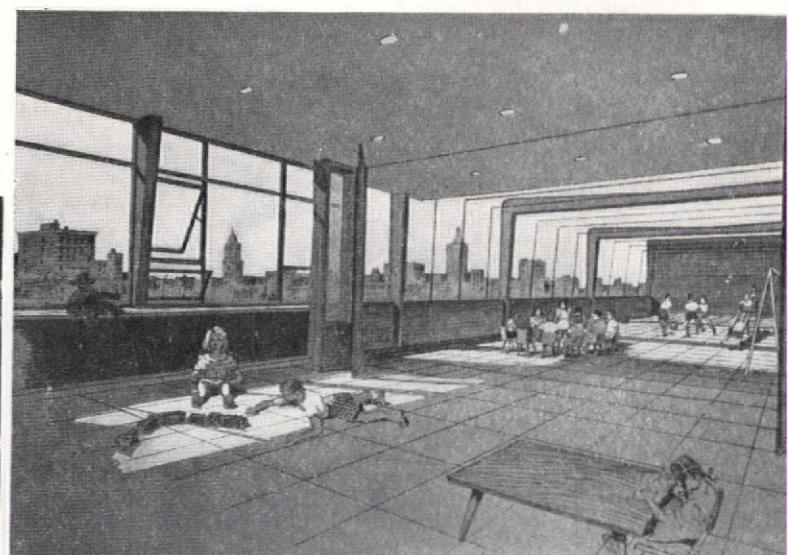
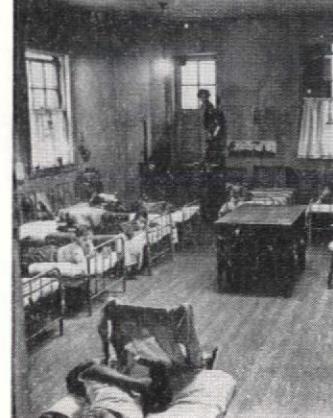


ST. BARNABAS HOUSE: new pattern for a charity mission.

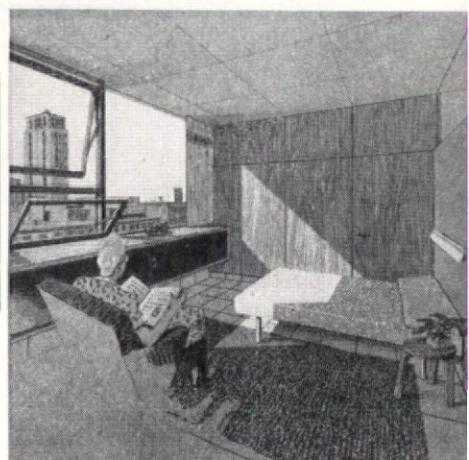
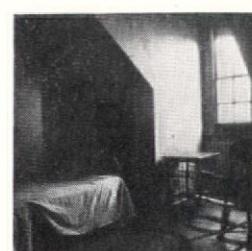
Not far from the Bowery, in Manhattan's seamiest slum neighborhood, the Episcopal diocese of New York maintains an 83-year-old, pitifully inadequate hostel for homeless and troubled women and children. Now the church plans to replace it with a new \$500,000 building designed by architects Ketchum, Gina & Sharpe.



The new St. Barnabas goes beyond mere reform of the present building which is not only crowded and unsafe but depressing and "Institutional". It has been planned for spacious grace.



The cramped roof playground, the jam-packed dormitories, the dim, cell-like bedrooms will give way to sunlit, cheerful play and sleeping rooms arranged for maximum flexibility and comfort.



another because of its personality," Hoving says. During 10 years as president of Manhattan's Lord & Taylor department store, he and vice-president Dorothy Shaver achieved personality so successfully that occasionally police assistance was required to move the crowds in front of the famous (unlimited budget) L. & T. window displays.

Last month it was plain that Walter Hoving's business future, like that of many another U. S. enterpriser, would turn on whether he could climb the present steep Building market. It was also plain that he was counting on a highly specialized design know-how to help him do it.

When Hoving left Lord & Taylor last year to form the Hoving Corp., he hoped to follow in the giant footsteps of Allied Stores, whose retail empire covers 71 choice properties. But Allied built its holdings at depression prices. The Hoving Corp., on the other hand, confronts a period in which stores are high-priced and hard to buy. Good shopping locations are as scarce and as high-priced as existing stores, while steep building costs (see page 10) sharply limit investment in new construction.

Hoving's first move showed he had found a way to bypass these hurdles. Acquiring New York's Bonwit Teller store from Atlas Corp., he immediately announced a Bonwit Teller branch for Boston. To the surprise of the Back Bay, this new Hoving store will be housed in the old New England Museum of Natural History, whose Corinthian-pilastered facade fronts on busy Berkeley street in a section between the Statler and Ritz Carlton hotels and near the Commons.

Securing this prime location on a lease from the New England Mutual Life Insur-

ance Co., Hoving will install ladies' ready-to-wear under the coffered ceilings from which only recently hung such Museum prizes as the giant pterodactyl skeleton and the American oyster catcher (rare) taken by Daniel Webster in 1837. Plans for converting this historic museum are being prepared by Leland & Larsen, Boston architects.

To give the store New York sex appeal in a ladylike way that Boston would find irresistible, Hoving brought in William Pahlmann, an interior decorator who had gathered a reputation for both himself and the Lord & Taylor store by a series of model rooms. Because department stores set popular standards in interior decoration and because Pahlmann quickly developed a style which managed to be both spectacu-

lar and inoffensive, he has probably cut as wide a swathe across the American home as any other designer you could name. What Pahlmann had done for the house, Hoving hopes he will do for the store.

Both men understand each other thoroughly in the matter of what a store interior should do to its customers, and both present a rather solid front against what an architect is likely to produce on the subject. Pahlmann is particularly appalled by the average architect's inability to detach himself from a passion for natural wood finishes. "They make everything look like a man's shop. They don't even bleach the wood. If only they saw what that yellow

glare does to—say, lingerie display."

In the Boston store, lingerie will be shown (but in carefully small quantities; display, like everything else in retailing, is now an exact science) against a background of "bedroom colors"—grayed pastels to you, bub. Customers will make their selection with the benefit of "intimate lighting", carefully graded to suggest "night lighting". (Fluorescent light, like natural wood, is something staff members have learned never to mention in front of Pahlmann).

There will be only one counter in the entire store, and this Pahlmann has reluctantly admitted to the third floor sports department, apparently feeling that sweater customers are not yet ready to give up hanging around a counter. Everywhere else ladies will sit at tables on chairs and be expected to refrain

from poking about in the wall cupboards, where merchandise will be kept under wraps for strategic display by high-powered sales girls.

The counterless store is only an easy jump from the deskless office, a notion also favored by both Hoving and Pahlmann. Hoving has always liked to decorate his offices like a living room and use a table instead of a desk. He usually points this out to visitors immediately, adding that a "desk creates too much awe and makes those who wish to speak freely speak a little less freely." This sometimes halts conversation for at least five minutes. Since Pahlmann equips his office in the same way and gives much the same reason, it is difficult to trace the exact origin of this, as of the other design principles which both men employ with a conviction of infallibility impressive to their competitors in this nervously feminine field.

With the familiarity of a man who has spent a decade around department stores, Pahlmann also declares violently against the stilted legs which some architects think lend chi-chi to shop counters. "Salesgirls feet are always tired," he says. "Stilted counters merely give a full view of tired feet in sloppy shoes, together with the wad of tissue and the box lid just dropped."

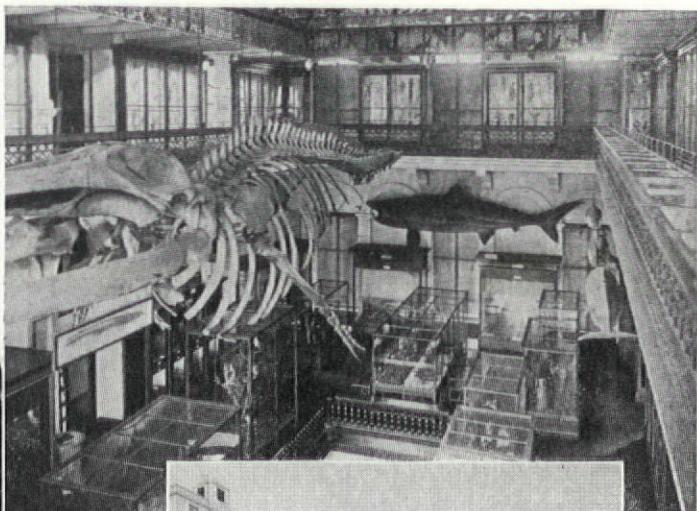
It is intimate know-how like this that got Pahlmann the Boston job, that will take him to the store Hoving will start building next spring on Chicago's Michigan Boulevard from plans prepared by Shaw, Naess & Murphy and to other stores which Hoving expects to locate in cities as yet unnamed. Architects inclined to bridle at what happens to their buildings after the carpenters leave might pause to reflect that until they master the obscure art of a color mix that can persuade a woman in a fitting room to buy a dress she cannot afford, in a color she never liked, there will always be an interior decorator.



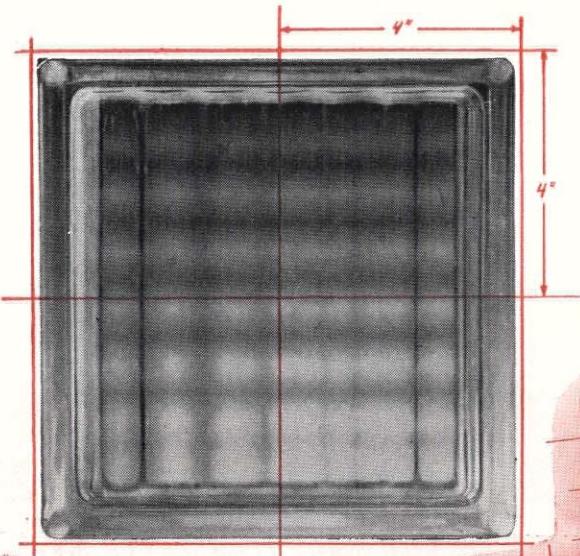
HOVING



PAHLMANN



HOVING BOSTON STORE will locate in museum building (r.) after refurbishing by decorator William Pahlmann, whose elegant hand is apparent in New York's Prince Matchabelli showroom (l.). No display windows will be cut in museum's dignified exterior. Some of the upper interior balconies, which are topped by a round clerestory, will be left intact.



MODULAR COORDINATION WITH PC GLASS BLOCKS

PC GLASS BLOCKS are manufactured in 6", 8" and 12" sizes, which are Standard Coordinated Dimensions. And you know what important savings in time and money accrue—from preliminary planning to final construction—when you use modular products.

This is just one of the reasons why PC Glass Blocks have been so widely specified for light openings in outer walls and for interior partitions. For PC Glass Blocks also transmit daylight generously. They provide excellent insulation. They deaden outside noises, preserve privacy, and are exceptionally attractive in appearance wherever used.

Send for this Free Book

We have recently published a 36-page book in which the many and varied uses of PC Glass Blocks are described and illustrated. The book also contains many detail drawings—such as the one shown here. We shall be glad to send you a *free* copy. Just mail the convenient coupon to Pittsburgh Corning Corporation, Room 611, 632 Duquesne Way, Pittsburgh 22, Pennsylvania.

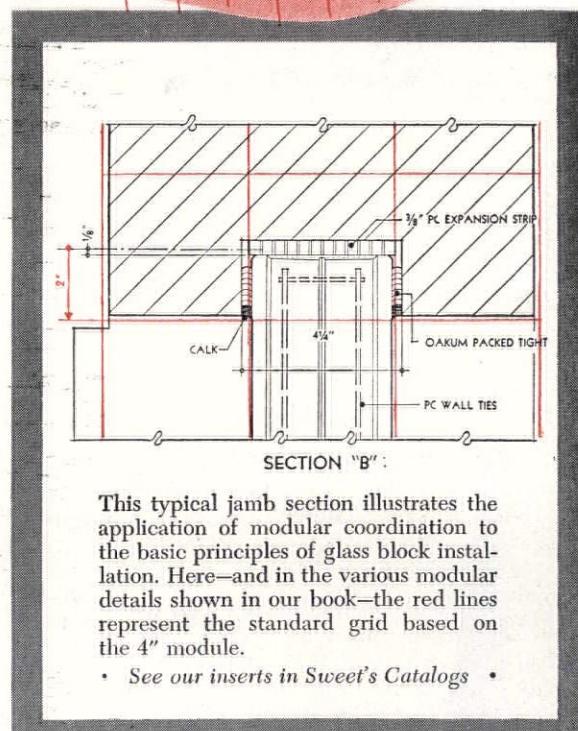
• Also makers of PC Foamglas Insulation •



GLASS BLOCKS

Distributed by

PITTSBURGH PLATE GLASS COMPANY and by W. P. Fuller & Co. on the Pacific Coast



This typical jamb section illustrates the application of modular coordination to the basic principles of glass block installation. Here—and in the various modular details shown in our book—the red lines represent the standard grid based on the 4" module.

• See our inserts in Sweet's Catalogs •

Pittsburgh Corning Corporation
Room 611, 632 Duquesne Way

Please send along my free copy of your new book on the use of PC Glass Blocks for Commercial Buildings. It is understood that I incur no obligation.

Name _____

Address _____

City _____ State _____

LOOK TO

Leader FOR

CONTROLLED MANUFACTURING

MATCHED AND BALANCED PARTS MEAN
SIMPLER INSTALLATION, EASIER MAINTENANCE



Leader IUO-240 . . . A typical example of Leader's Controlled Manufacturing. A durable, heavy duty industrial unit. Ideal for continuous runs. Easily installed, eliminates all installation extras.

There's never any "jig-saw puzzle" manufacturing at Leader's three strategically located plants...no assembling of misfit parts. With Leader's "under-one-roof" facilities, fabrication, finishing, assembly and inspection follow each other with clock-like precision. This gives assurance that every Leader Fluorescent Luminaire is balanced, with all integral parts perfectly matched for maximum efficiency, simple installation and easy maintenance. For Modern Design, Precision Engineering and Controlled Manufacturing...LOOK TO LEADER.

Leader Officer VL-440, with adjustable Direclite . . . Wafer thin. High gloss white enamel louvers for maximum soft light diffusion. Direclite ideal for "spotlight" merchandising, singly or in runs.

Leader Glass Enclosed Unit GL-440 . . . Luxury lighting at moderate cost. Ribbed glass construction plus diffusion louvers give pleasing soft lighting effect. Especially fine for stores, offices and schools.

Leader Trofferlite TG-240 . . . Sturdily built to permit ceilings to be hung from the units. With or without glass panels and louvers. Ideal for new construction or remodeling. For use in single units or continuous runs.

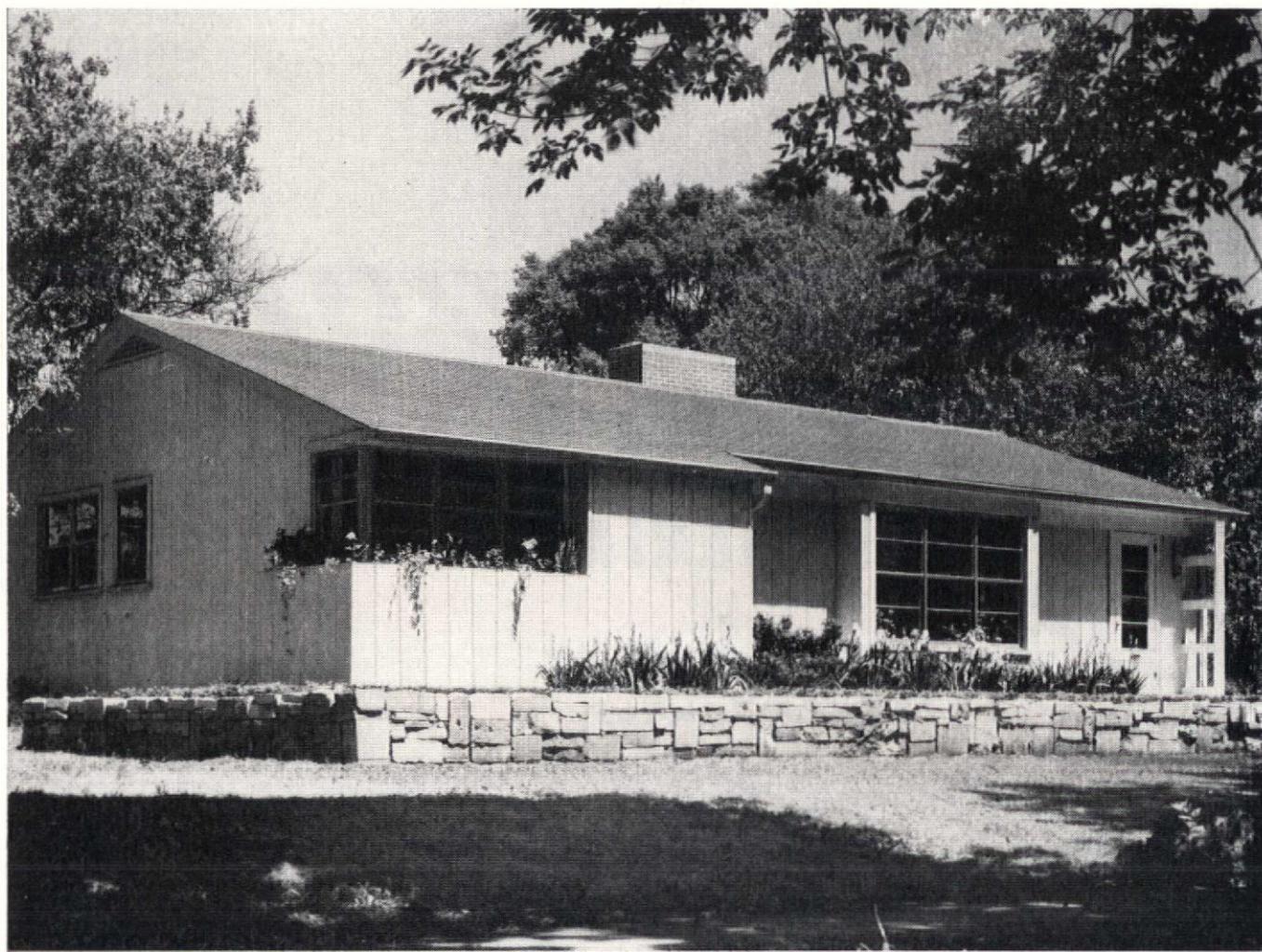
Better electrical wholesalers everywhere distribute Leader fixtures. There is a friendly Leader representative in your area.



LEADER ELECTRIC MANUFACTURING CORP.

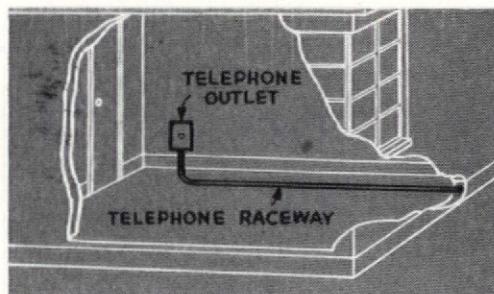
6127 N. BROADWAY • CHICAGO 40, ILLINOIS

WEST COAST FACTORY—2040 LIVINGSTON ST., OAKLAND 6, CALIFORNIA



Granville Keith, Architect

EVEN MODERN MIDGETS SHOULD BE "TELEPHONE CONDITIONED"



What the up-to-the-minute home misses in size, it makes up for in planning. For one thing, a raceway for concealing telephone wires is provided for *in the plans*.

When there is no basement, the telephone installer generally cannot run wires up through the floor to the telephone location. But a simple wiring channel *installed before the floor is laid*, avoids attaching telephone wires in plain sight on baseboards and around window and door frames.

Every small home should have raceways for telephone wires. Your Bell Telephone Company will be glad to help you plan economical telephone wiring facilities. Just call your Telephone Business Office and ask for "Architects and Builders Service."

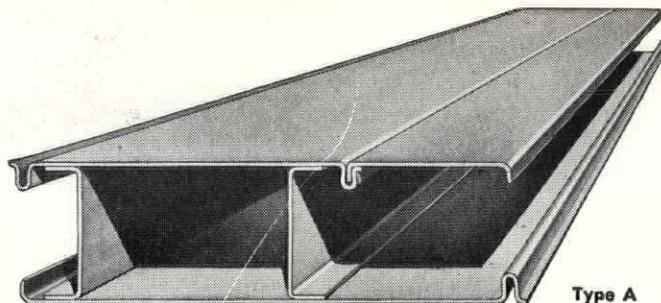
BELL TELEPHONE SYSTEM



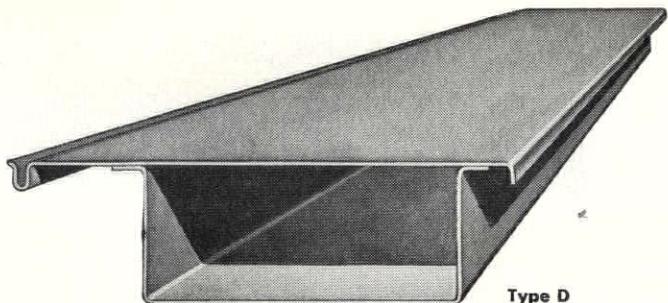
Fenestra

MATERIALS FOR COMPLETE

METAL PANELS

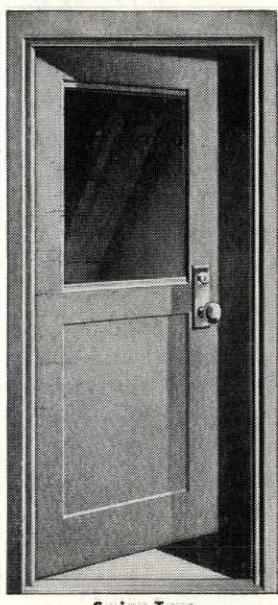


Type A

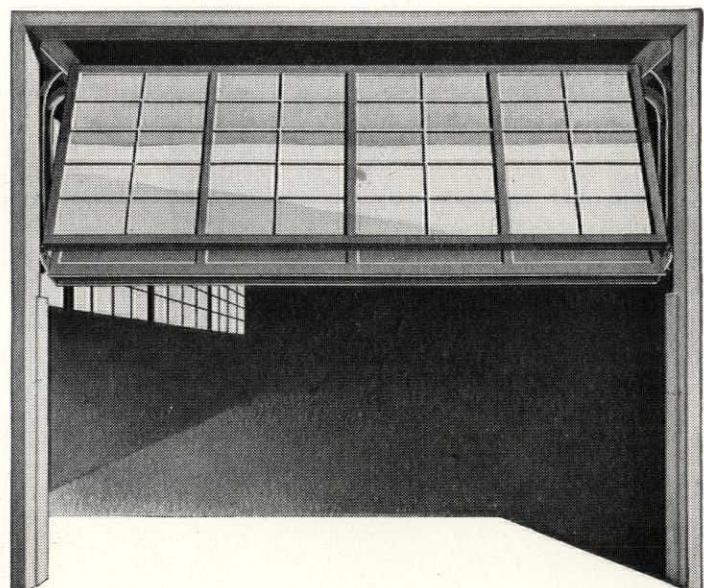


Type D

STEEL DOORS

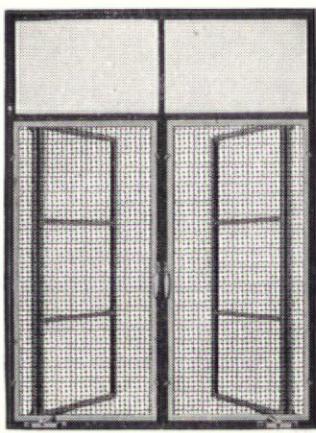


Swing Type

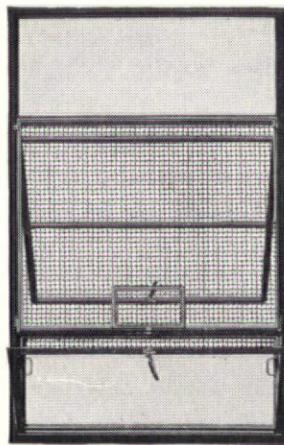


Turnover Type

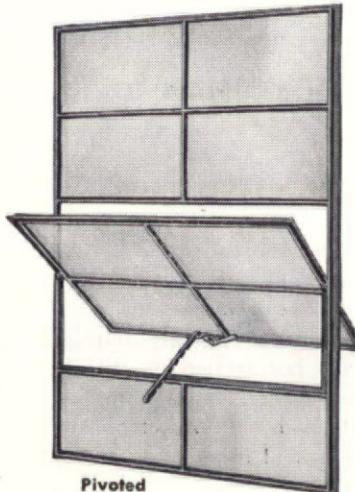
STEEL WINDOWS



Residence Casements

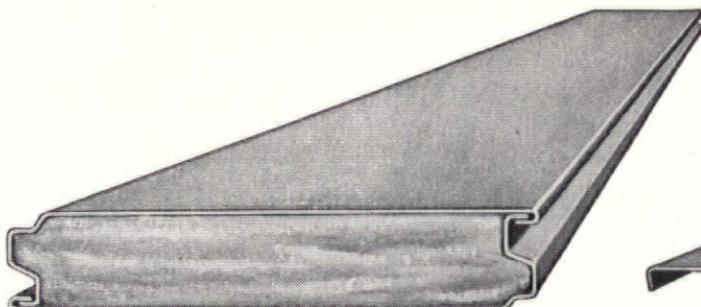


Fencraft and Fenmark

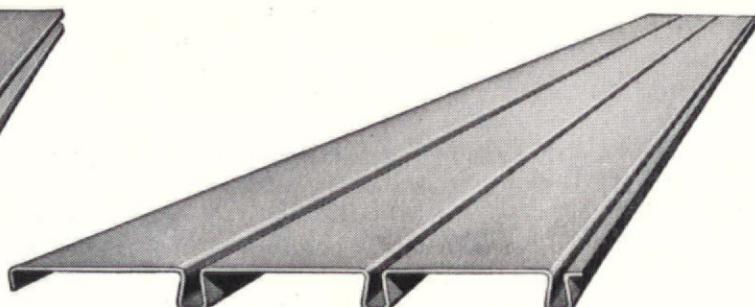


Pivoted

BUILDING ENCLOSURES



Type C



Holorib

Fenestra has developed new building products that now enable you to enclose buildings completely, quickly and economically—with materials all obtained from the same reliable source.

FOR WALLS, FLOORS, ROOFS, PARTITIONS—Fenestra prefabricated metal panels in a range of types from which you can select the *right* one for your particular requirements. Fenestra Panels speed erection.

FOR WINDOW OPENINGS—Fenestra prefabricated steel windows, providing a wide choice of kinds, types and sizes for all kinds of buildings. Most kinds are standardized in sizes to fit modular construction, for quick, efficient, economical installation.

FOR DOOR OPENINGS—Fenestra prefabricated steel swing-type doors, complete with frames and hardware. Also slide-type and overhead-type doors. All are standardized in sizes for maximum economy in first

cost as well as in installation time, labor and materials.

. . . Many years ago, Fenestra made America's first steel windows. Fenestra's Engineering Research Department, established in 1920, has made many notable advancements in design and construction of building materials. All Fenestra Building Products—windows, doors and panels—benefit by the experience of America's oldest and largest steel window manufacturer. At your service are six plants in Detroit, Buffalo, Philadelphia and Oakland, numerous conveniently-located factory warehouses, and sales-engineering offices in 200 principal cities.

For detailed information on Fenestra Building Products, see the Fenestra "Blue Book" catalogs in Sweet's Architectural File for 1947 (Sections 16a-9 and 3c-1). Better yet—call us direct. Detroit Steel Products Company, Dept. AF-3, 2251 East Grand Boulevard, Detroit 11, Michigan.

DETROIT STEEL PRODUCTS COMPANY

LETTERS

Prefab Pros and Cons . . . Defense of Roger Allen . . . The Fireproof Question . . . Construction Loans for G.I.'s . . . The British Mind at Work . . . Sour Notes on the U.N. Site Choice.

PREFAB PORTFOLIO

Forum:

I am writing to congratulate you on the current issue of the FORUM. I like your choice of houses in the first section; I like the inserted historical section. But especially I like the last section on the prefabricated houses. Your text is clear, informative and, thank goodness, not too subjectively enthusiastic. I think you have kept a good balance . . .

PHILIP C. JOHNSON
Museum of Modern Art

New York, N. Y.

Forum:

Congratulations for the splendid presentation of Production Line Structures in your January issue. Many architects and contractors have already called to see our Units and the response has been overwhelming at this very early date . . .

KENNETH N. LIND
Production Line Structures
Los Angeles, Calif.

Forum:

I cannot understand how an architectural magazine can hold out prefabrication as bait to subscribers or can actually sponsor such a movement.

Traditional home building has been developed around the idea of producing custom-built homes to fit families in varying standards of living and diverse economic conditions. It has been developed to expand in inflationary periods and survive during depressions.

Industrial prefabrication, on the other hand, creates a capital plant which must be supported during depressions. It necessarily standardizes the design and planning of homes and thereby stifles expression of family life and casts it in a common mold. It must be priced to meet competition in various locations where costs of construction vary considerably.

Transportation may be logically industrialized and standardized. But to standardize family life . . . is not in accordance with American principles of freedom of expression . . .

CHARLES E. KRAHMER, Architect
Newark, N. J.

Forum:

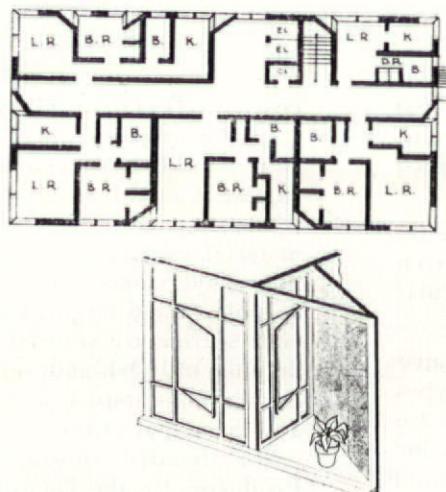
In the "Letters" column of your November '46 FORUM I was headlined as Mr. "Poison."

For this favor I will elaborate a little on what was the trouble: Your whole

magazine disappointed me in that it seemed to take an extremely passive attitude to the greatest building boom that has ever been before us . . . Yes, you presented a series on prefabrication and other aspects of housing, but these seemed to have no fire back of them—instead, you dwelt most heartily on remote mansions for millionaires (something that by rights are even illegal to construct nowadays, or were at the time of publication). You were more concerned with the upper fifty thousand's housing problems than with those of the lower fifty million . . .

I am a firm believer in the use of mass production methods, whether it be the manufacture of better automobiles, airplanes, shoelaces or houses and apartments. In this respect, I consistently feel that houses can be mass-produced at great economic saving, yet not be a series of "crackerbox" designs like those so many present day prefabricators are wasting time on. They can be as distinctive as any better-grade house today. But what both the architectural profession and the building trades need is a renaissance . . .

My own invasion of the architectural field is meeting with dismal failure—unless a building revival resurrects it this year. I developed a patentable type of packaged window unit which is best described as "a corner window for a room that is not in the corner of a building." Its purpose is the



Plan and detail of "corner" window

more economical construction of buildings through the elimination of indentations in the outside wall plan by the novel method of placing a sash in a partition wall abutting an outside wall window.

. . . The idea for this window was an outgrowth of my own desire to build a seven-room house by the most economical method,

yet have double corner windows in the master bedroom. It is several hundred degrees less wild than the Fuller house which received so much publicity in your magazine.—Is that firm broke yet?

D. G. LEWIS

Sunnyvale, Calif.

SOUTH AMERICAN SLIP

Forum:

In your article on South America (FORUM, Nov. '46), I want to thank you for including our building and for the kind words about Colombia, its architects and architecture in general. However, on p. 107 there is a mistake in the caption, "New construction jams Bogota's old streets." The scene belongs to Medellin. My name has also suffered considerable distortion at the hands of the printers, being indicated with an L instead of an S . . .

FEDERICO VASQUEZ
Medellin, Colombia, S.A.

SHADES OF COTTON MATHER

Forum:

I see among your January "Letters" that one Alan Mather doesn't like Roger Allen's stuff. O.K. Every man to his own opinion. My own is (a) that Allen is the No. 1 architect-humorist of my long lifetime, and (b) that the best of his work ranks with that of any humorist of the time, architect or no. Such is my confidence in the taste and discernment of my professional brethren that I'll bet a bottle of prewar Scotch against a licorice stick that the vast majority agree with me.

FRANK STANTON, Architect
Seattle, Wash.

Forum:

A letter of truly archaeological dreariness appeared over an old archaeological New England name. In the purest Salem spirit of Cotton Mather, this latter-day Alan (not to be confused with the other Allen) takes a very grouchy line toward our own Roger (again not to be confused with Roger Williams, who ran afoul the earlier Mather's attitude toward humor).

Perhaps Alan has given us something to ponder. Does the contemporary attack upon a problem rule out the fun of architecture? Must it be accomplished grimly and with a tense set of the jaw? Are we not permitted to enjoy the whimsies of the 1940's at least as much as we do those of the twenties? I have a suspicion that the

(Continued on page 24)

BLUEPRINT FOR *Better Heating*



Key points in comfort and home-owner satisfaction are these White-Rodgers automatic temperature controls.

Because exhaustive tests have proved them better, more and more leading manufacturers of heating equipment supply White-Rodgers controls as standard.

The beautiful White-Rodgers Room Thermostat fits in with any decorative scheme. The accuracy and dependability of all White-Rodgers controls keep home buyers satisfied and reduce your service problems.

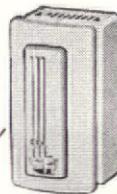
See that the heating plants you install are equipped with White-Rodgers automatic controls.



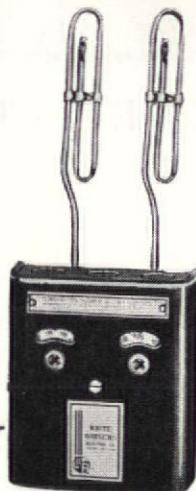
WHITE-RODGERS ELECTRIC CO.

ST. LOUIS 6, MISSOURI

Controls for Refrigeration • Heating • Air Conditioning



ROOM THERMOSTAT
Modern in design, attractively finished in ivory and chrome, the Series 120 Room Thermostat harmonizes with any decorative scheme.



FAN and LIMIT CONTROL
Protects warm air furnace against excessive temperature and provides accurate fan control. Direct reading dials permit quick, positive settings.



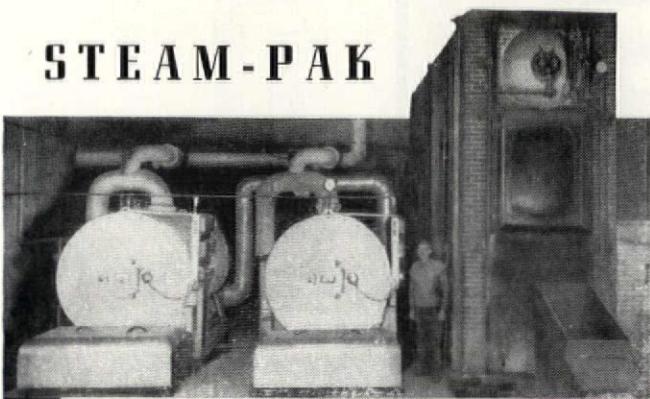
GAS SAFETY PILOT
Positive safety is assured with the White-Rodgers Gas Safety Pilot. Fast acting, it recycles automatically and may be put back in operation by relighting only.



DIAPHRAGM GAS VALVE
Diaphragm Gas Valve is smooth in operation and high in capacity. May be operated manually before electric power is connected or in event of power failure.

LETTERS

STEAM-PAK



GENERATORS GO TO COLLEGE

At Woodstock College in Woodstock, Md., two SPL-100 (100 h.p. low pressure) Steam-Pak Generators have replaced three 80 h.p. boilers. It doesn't take a mathematics professor to figure out that a 200 h.p. system is now doing the work formerly done by a 240 h.p. job . . . to say nothing of the economy and convenience of *fully automatic oil heat*.

Steam-Pak Generators are built right, installed right, and serviced right by a factory-distributor-dealer organization that knows how. Complete lines of low pressure (heating) and high pressure (process steam) units range from 15 to 100 h.p. for No. 3, 5, or 6 oil. The 30, 50, 75, and 100 h.p. low pressure units are available for *immediate installation*. Industrial Division, York-Shipley, Inc., York, Pa.

YORK-SHIPLEY

Oil-Fired Equipment for Industry

America's Most Complete Line

Request catalogs: ID-47-8D tells the sales story; ID-46-1D gives "facts and figures" about *Steam-Pak Generators*.

architects of the year 2012 will wonder from time to time just what we did that might be more important than doing it pleasantly.

Joviality and a merry sense of the convivial have long been a tradition in the profession and I, for one, do not ever want to get so contemporary that even the tradition of good humor be interred with d'Espouy's Fragments and Ashar Benjamine. It will take a bit of doing to catch the atmosphere of the operating clinic—or even a Salem pulpit—and inject it into the drafting room.

It is one thing to knock off a Corinthian cornice but quite a more serious matter to knock off Roger Allen and his happy familiarity with the affairs of the profession. There are too many of us who have known the household in which we serve these many years and love its quaint and silly aspects with the laughing kind of an integrity which Roger Allen personifies . . .

Surely there is both room and a need for a tolerant kind of intelligence amid all the zeal to present the world with "The Architectural Message." Even firemen answering the clarion call find time for whimsy and a bit of a laugh with an affable colleague.

VINCENT F. FAGAN, Architect
South Bend, Ind.

Forum:

I thought perhaps you would like to see the Roger Allen Christmas picture which we ran last December 25.



Allen celebrates the yule

The picture proved to be a hit, although there were some doubts about it. An interesting sidelight is that one or two of our subscribers protested that it was inappropriate for the day. But, as you well know, you can't please everybody.

B. G. BROWN, City Editor
The Grand Rapids Press
Grand Rapids, Mich.

PENTAGONAL FIRETRAP

Forum:

The design of the "Pentagonal Apartment Building" illustrated in the January

issue of the FORUM is, of course, an ingenious one. However, what would happen in case of a serious conflagration? Do you and the architects believe that families could escape through the central core without other means of exit? Have not the recent tragedies in Chicago and Atlanta taught us any lessons? Or is it possible that the designers are content to say "It can't happen here?"

You may argue that the requirements of the fire code have been met. Personally, I would hate to live on the upper floors of such a building in case of a serious and devastating fire. Perhaps the plan will yield handsome returns for the owners' investment and families can be housed fairly economically. But are considerations of humanity less important than financial ones?

P. M. TORRACA, Architect
Virginia Polytechnic Institute
Blacksburg, Va.

Fire prevention in the pentagonal apartment building is achieved by many precautions, only a few of which were shown in FORUM's floor plan. Each apartment is equipped with a spring-hinged fireproof front door and steel windows; elevators are completely enclosed; each flight of stairs (and there are two per floor) is designed to accommodate the entire population of a floor; stairwells use no wood, have fireproof doors and steel handrails and extend only to the first floor rather than to the basement where fires ordinarily start. If all buildings were designed with such attention to fire prevention there would be fewer tragedies.—Ed.

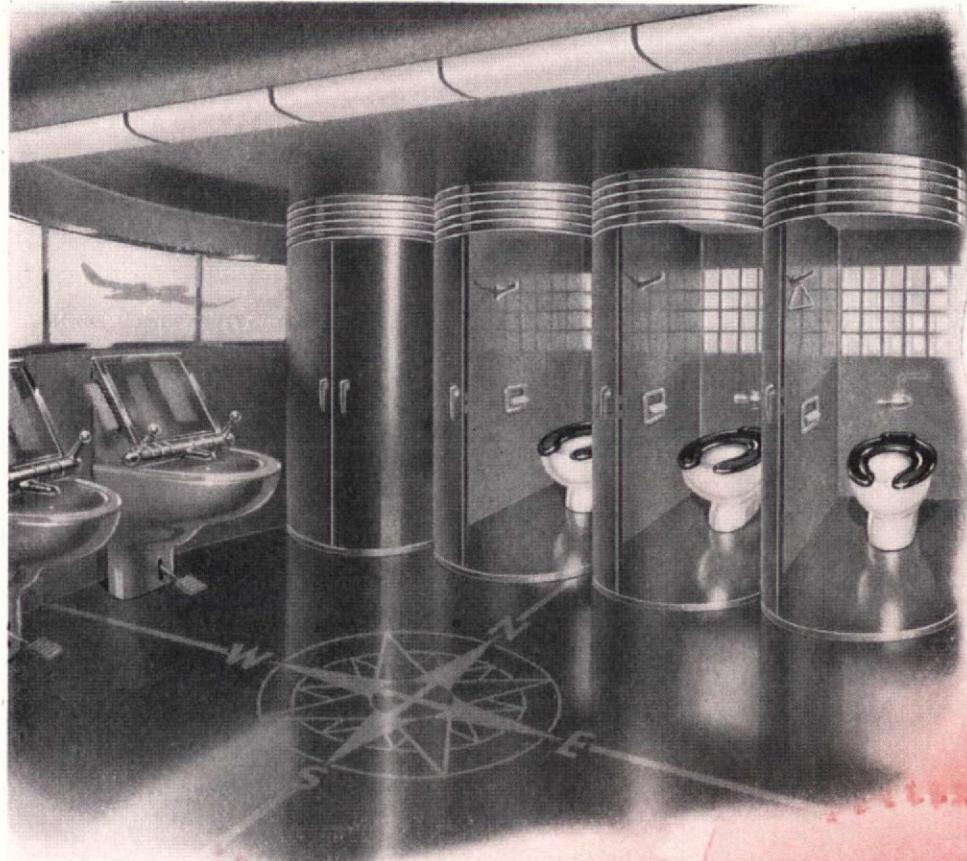
ADVANCE MONEY

Forum:

I have just read with astonishment the amazing inaccuracies in the letter entitled "G.I. Money" in the January FORUM. It is obvious that Mr. McCann is unfamiliar both with the regulations of the loan section of the G.I. Bill and with general bank-lending policies.

Banks most certainly can, are willing to, and *do* make construction loans to veterans on houses which they "can't see yet." Any veteran who comes into our bank or any active lending institution with adequate plans and specifications, and with a firm price bid from a reliable contractor, or even with merely his own estimate if he can prove a reasonable amount of experience in building, can get a construction loan up to 100 per cent of the total cost of land and building. In thousands of cases, G.I. construction loans include four, five and even six payments before the house is completed. Moreover, under the G.I. regulations banks can and *do* advance money for the purchase of lots, even before the batten boards are up. Mr. McCann certainly cannot ask for anything better than that.

(Continued on page 28)



*In Tune with
the Times—*

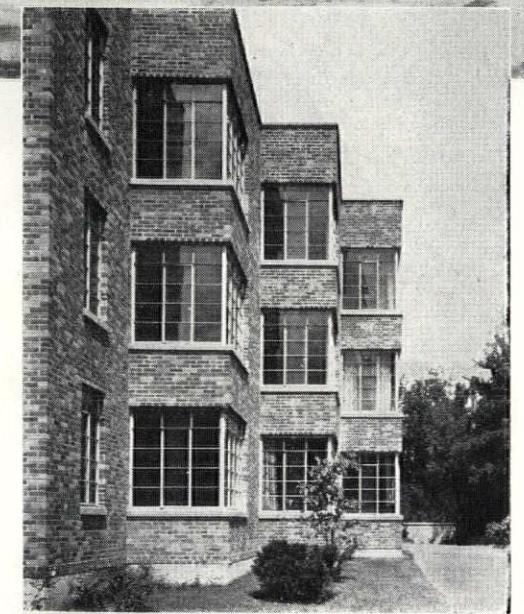
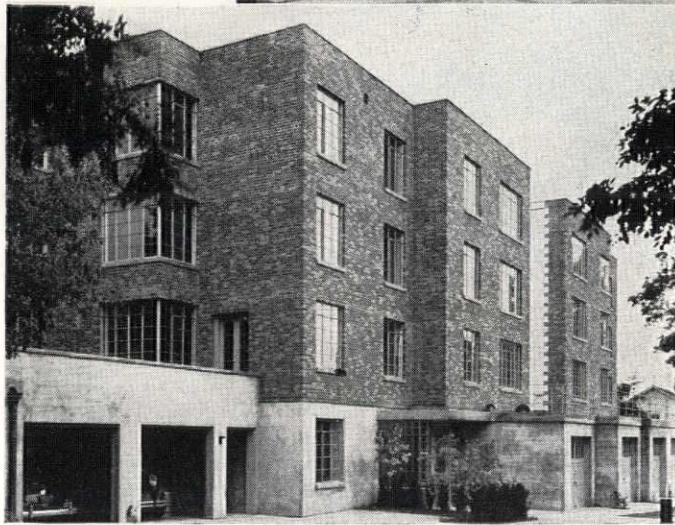
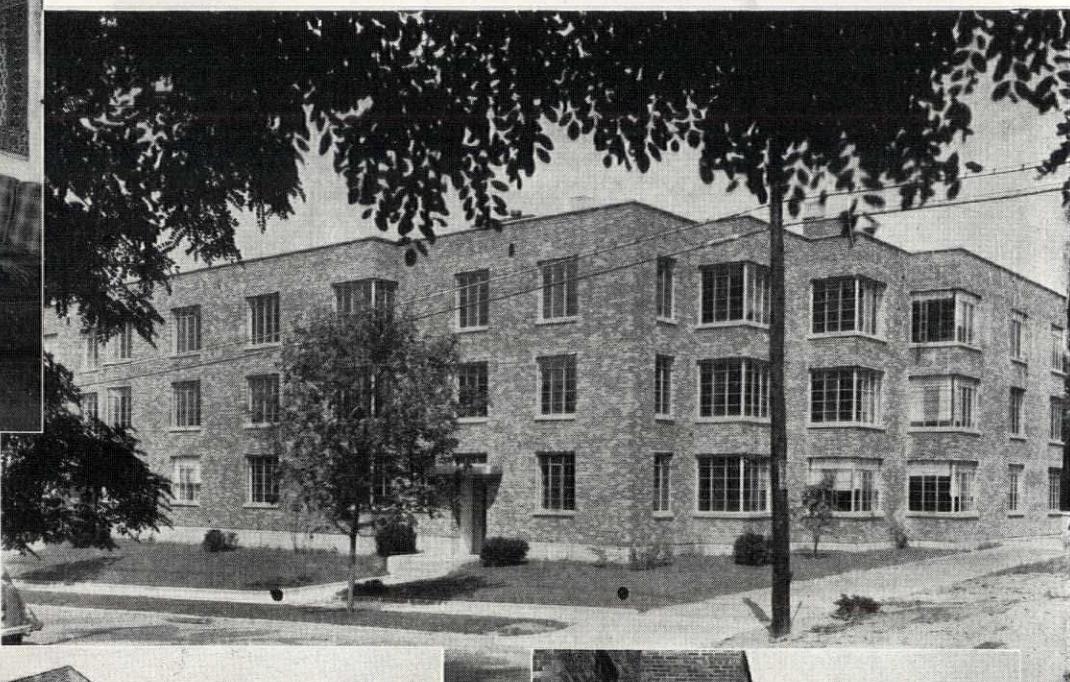
BENEKE PLASTIX



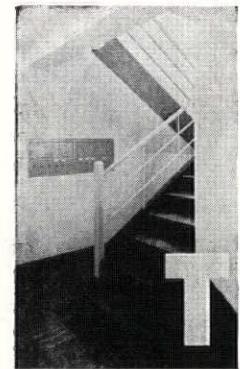
Illustrated at right
Style 523-B Beneke Plastix Seat

BENEKE CORPORATION

Columbus, Mississippi, U.S.A. • Offices in Principal Cities



FAIRVIEW MANOR, AT ITHACA, NEW YORK
Designed by NORBERT H. SCHICKEL, Consulting Engineer, Ithaca, N.Y.
A. H. MCPHERSON & SON, General Contractor, Ithaca, N.Y.



HIS 60-unit apartment building, unique in design, both as to planning and method of construction, was built on a hilltop, overlooking the Cascadilla Gorge and Cornell University, and was so designed as to permit an unobstructed outlook. Setbacks on each corner of the building provide corner windows in 42 of the living rooms.

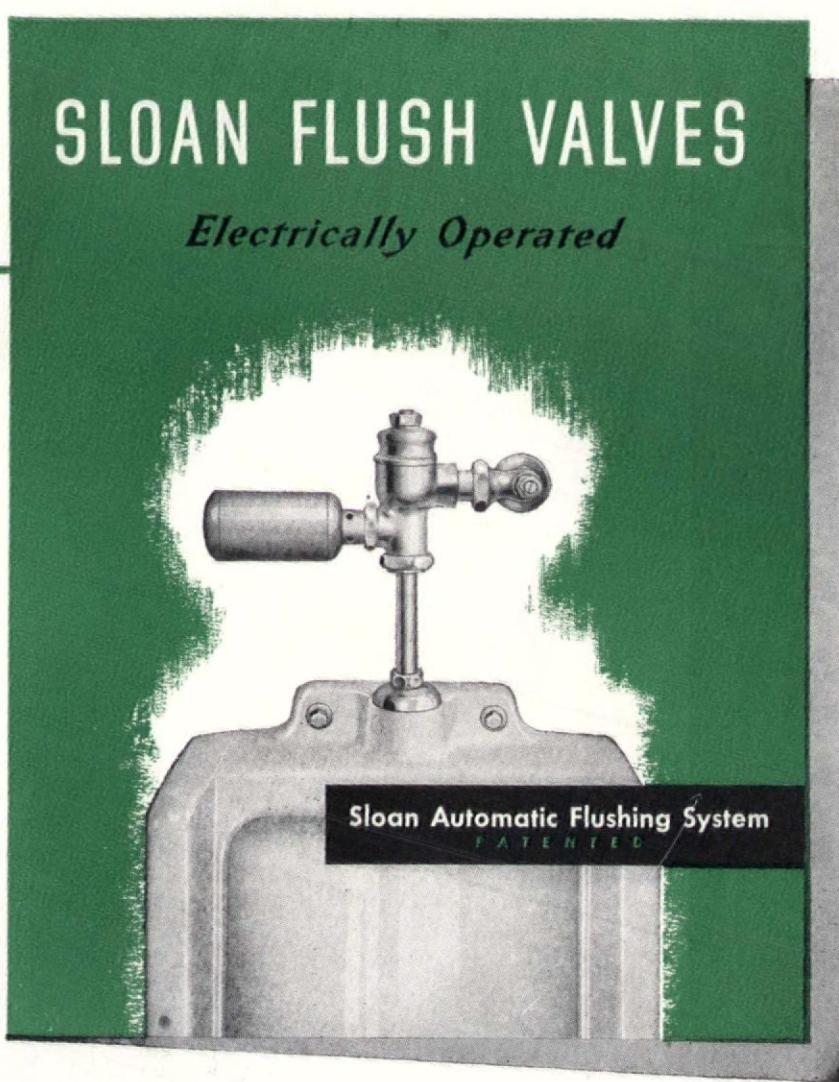
The structure consists of reinforced concrete interior bearing partitions and flat floor slabs, surrounded with cinder block and brick walls around the outside. Concrete was poured into specially-designed forms, giving walls and ceilings a smooth finish, and elimi-

nating the necessity for plastering. Economies in construction, maintenance, operation and depreciation were effected through careful planning and making the most of the advantages of a hilltop site.

In keeping with the general high character of the building, Pratt & Lambert Paint and Varnish were used on exterior and interior surfaces. Modern, attractive decoration for any type of project is assured architects and building managers through the co-operation of the nearest Pratt & Lambert Architectural Service Department.

PRATT & LAMBERT-INC., Paint & Varnish Makers
NEW YORK • BUFFALO • CHICAGO • FORT ERIE, ONT.

PRATT & LAMBERT PAINT AND VARNISH



*another
Sloan
first*

The Sloan Automatic Flushing System is designed principally for the automatic operation of Sloan urinal Flush Valves—and is adaptable to old as well as new installations.

With Automatic Flushing in public or semi-public toilet rooms, neglect to flush urinals is entirely eliminated—more hygienic conditions assured—and better housekeeping of the toilet room encouraged on the part of building tenants, company employees, customers and the public.

In special installations such as sanitariums, hospitals, institutions and prisons, the responsibility of the individual to operate the flush valve is entirely eliminated with Automatic Flushing.

For further information, or information on your specific installation, write to the Sloan Valve Company, or address the Sloan representative in your territory.

Sloan Valve Company

chicago 24, illinois

LETTERS

The AMERICAN HOME Better Homes Gardens

Oh! what a lovely bathroom!

So inexpensive with walls of Prestile! And so easy! Prestile comes in panels of baked-in gleaming colors, ready to cut and fit over your new or old walls. Stays so sparkling clean, you'll want to Prestile your kitchen and other rooms, too! Ask your dealer about this modern nationally advertised tile-board.

PRESTILE
"Its Lasting Beauty is Baked In"

© 1947 P. H. CO.
Demand exceeds supply. Prestile may not be available in some communities. If your dealer does not have it, call him.

"Here's another **Prestile** ad...
Their advertising is sure clicking!"

"Easy to understand why!
Prestile tileboard has many advantages people want... low cost... smart colors... and very important, an oven-baked finish that lasts. Prestile national advertising is a real help!"



• Right now, demand for this quality tileboard exceeds supply. Prestile national advertising is designed to keep demand at a high level... for the day when ample supply is available.

PRESTILE

"Its Lasting Beauty is Baked In"

PRESTILE MANUFACTURING COMPANY
2860 Lincoln Avenue, Chicago 13, Illinois

In the case of pre-cut or prefabricated homes, definite commitments can be made directly from the bank to the manufacturer with the proper authorization . . .

Please, FORUM, do not let your readers get the idea that banks have put obstructions in the path of veterans' housing. Whenever a veteran is getting a square deal in buying or building a house, every lending institution in the country is ready, able and willing to help him.

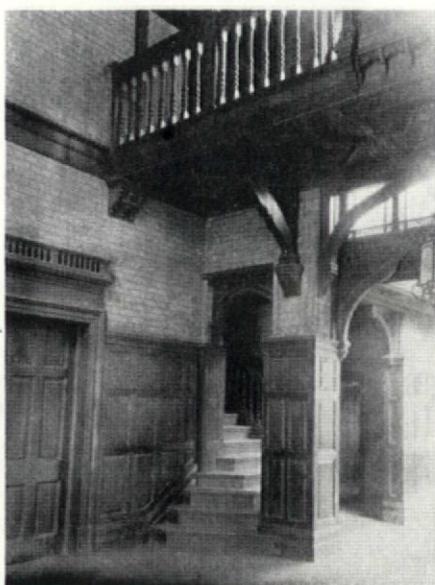
FREDERICK C. OBER
Springfield Five Cents Savings Bank
Springfield, Mass.

Banker Ober is dead right about construction loans except in a few rural areas where year-long foreclosures make banks less eager to lend construction money. Ex-G.I. McCann is undoubtedly the victim of such unusual local circumstances.—ED.

PRE-ATOMIC OAK

Forum:

Further to ours of the 6th Dec. reference (FORUM, Feb. '47) in which we revealed our plan to dispose of an Oak Hall for £2,000, we now have pleasure in forwarding to you photographs of this Oak. The photographs are, of course, recent and the Oak has not been polished for over five years. All furniture is also removed and the conservatory is devoid of plants. The under-



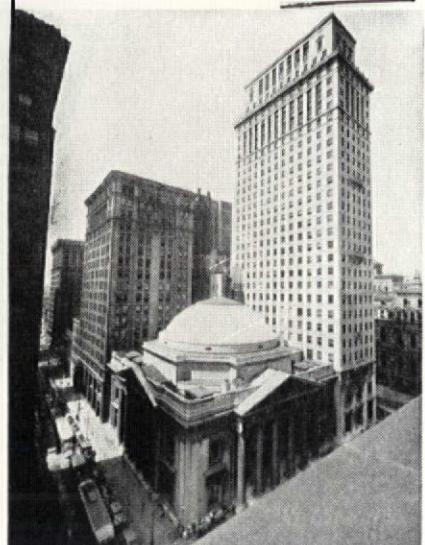
View of the conservatory

signed would be prepared to redesign this exquisite Tufa Rock Conservatory in imitation of the original.

D. F. SANDERS
Sanders (St. Albans) Ltd.
St. Albans, Herts., England

(Continued on page 32)

Girard Trust Carries on Fine Tradition



Girard Trust Company, Philadelphia, one of the first trust companies in America, organized in 1836 and never merged with any other bank. Left to right: Morris Building, Girard Trust Co. Building, Girard Trust Office Building.

Carefully conservative in the Girard tradition is the management of the three Girard Trust properties in downtown Philadelphia. Their use of Webster Steam Heating Equipment... back to 1910... has kept these properties at the peak in comfort and economy in heating.

The 28-story Girard Trust Office Building, the 18-story Morris Building, and the picturesque domed Girard Trust Company Building are today heated from one central boiler plant, with most of the installation under Webster Moderator Control.

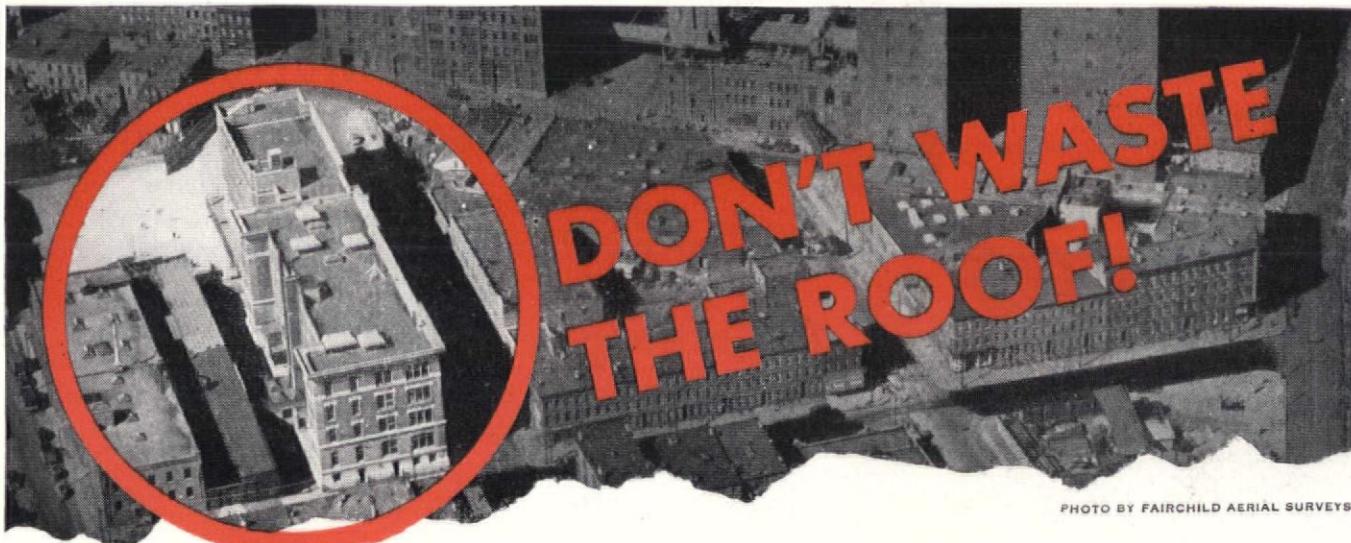
In 1910, the first installation of Webster Heating Equipment was made in the Morris Building.

Webster Heating Equipment has been purchased at intervals for 35 years. The most recent improvement was the selection of a Webster Moderator System as part of a modernization program begun in 1945 involving a tailor-made orificing job — equipping 734 Radiator Supply Valves with properly sized Webster Metering Orifices.

We are ready to work with you just as we have worked with the Girard Trust Company.

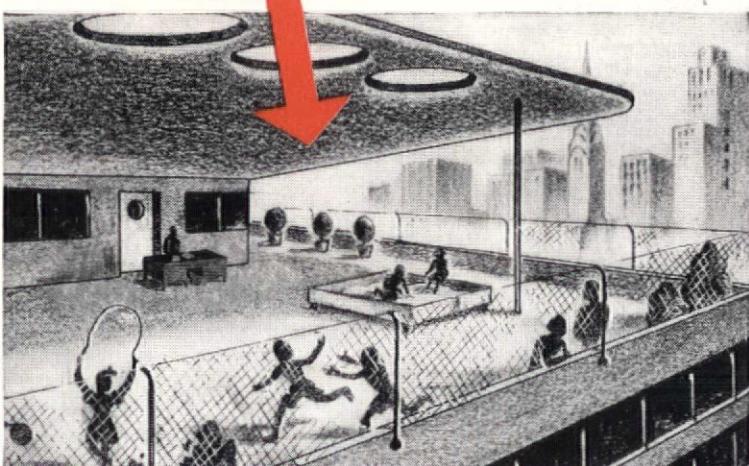
WARREN WEBSTER & CO., Camden, N. J. Representatives in principal U. S. Cities: Est. 1888. In Canada, Darling Brothers, Limited, Montreal

Webster
HEATING SYSTEMS



**DON'T WASTE
THE ROOF!**

PHOTO BY FAIRCHILD AERIAL SURVEYS



No waiting for some time in the dim future—full utilization of those valuable roof areas is possible and practicable today! Now you can plan hospitals with outdoor decks for convalescents, apartment houses with gardened roofs, department stores with recreational roofs for employees, and factory roofs with husky concrete surfaces for traffic and storage.

The old hampering difficulties that prevented ideal use of roof space need no longer stand in the way. Specifications for these new developments are available to you now. As worked out by

Ruberoid engineers, these new roof developments are tested and thoroughly feasible. For full details get in touch with your local Ruberoid Approved Roofer—there's one located in every part of the country. Backed by Ruberoid's years of experience and complete line of materials he can give practical, unbiased help on your roof problems!

The RUBEROID Co.

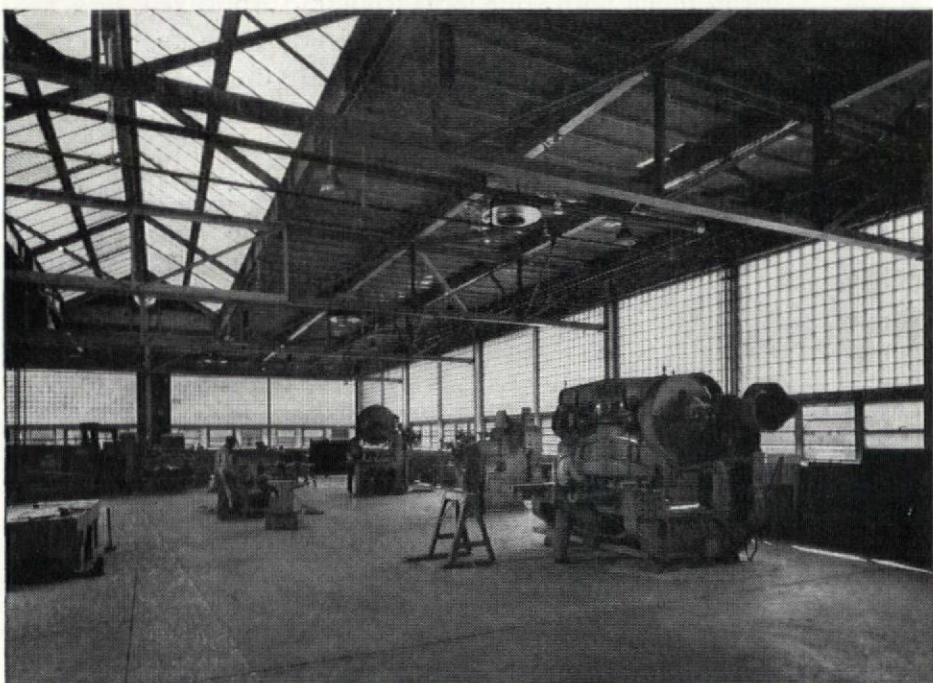
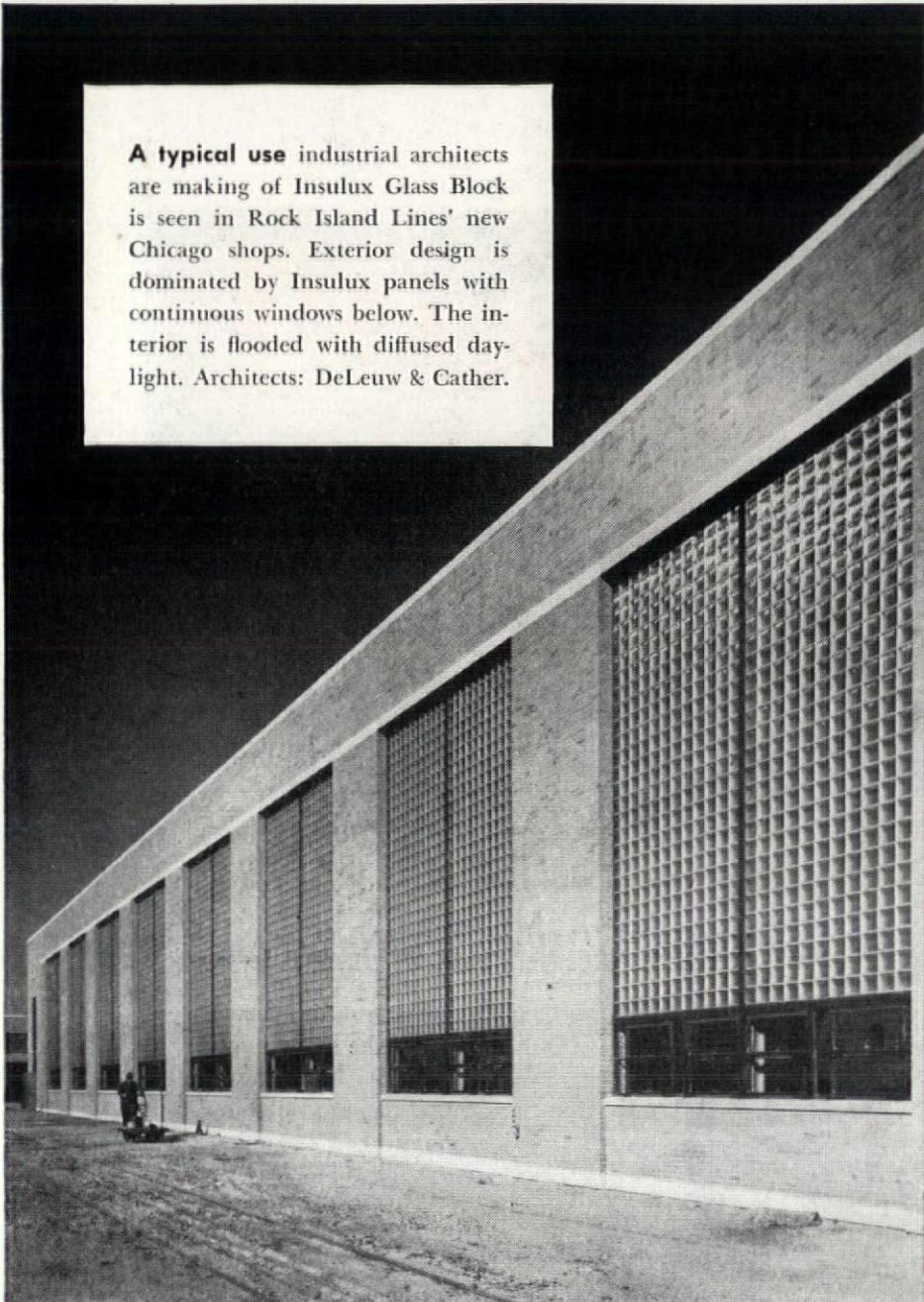
Executive Offices: 500 Fifth Ave., N. Y. 18, N. Y.
Asphalt and Asbestos Building Materials

The RIGHT roof for any job—from one source!



Remember that Ruberoid makes every type of built-up roof—Smooth Surfaced Asbestos, Coal Tar Pitch with gravel or slag surfacing, or smooth or gravel-and-slag surfaced Asphalt—in specifications to meet any need. Hence a Ruberoid Approved Roofer is not prejudiced in favor of any one type. His services assure you of one source for all materials, centralized responsibility, smoother operation, uniform quality!

A typical use industrial architects are making of Insulux Glass Block is seen in Rock Island Lines' new Chicago shops. Exterior design is dominated by Insulux panels with continuous windows below. The interior is flooded with diffused daylight. Architects: DeLeuw & Cather.



Ceiling-high Insulux panels distribute daylight across broad work areas, cut off distracting views. Clear windows furnish ventilation and vision out. Insulux Glass Block has proven advantages in all classes of construction.

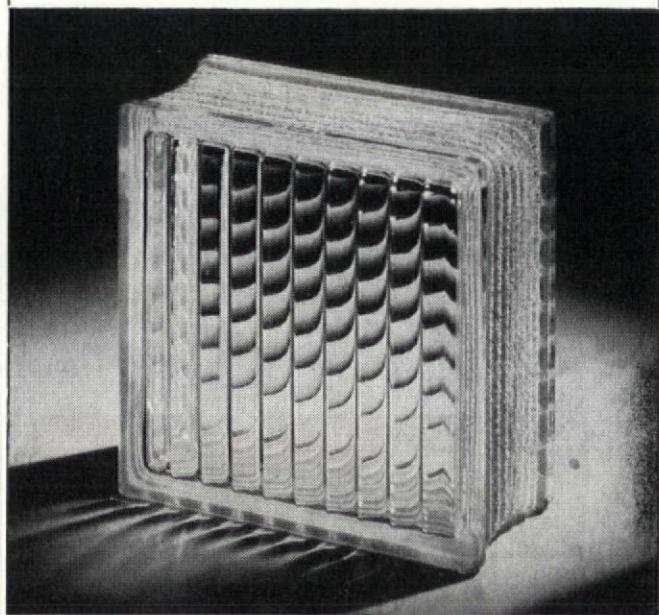
How an architectural material works for industry

IMPROVED working conditions and low maintenance costs come automatically with Insulux Glass Block—a material of recognized architectural merit.

In key with contemporary architectural thinking for industrial buildings, Insulux has also won enthusiastic industrial approval. Management favors the prevention of rot, rust and corrosion—elimination of painting—the ease of cleaning. High insulating value makes possible *economical* air conditioning of wide areas. Heat loss in winter and heat gain in summer are materially reduced.

For the many practical uses of Insulux Glass Block in industrial, commercial and residential construction, consult the "Glass" section of Sweet's Architectural Catalog. You will find technical data, specifications and installation details. Or write Dept. D-15, Owens-Illinois Glass Company, Insulux Products Division, Toledo 1, Ohio.

OWENS - ILLINOIS
INSULUX
GLASS BLOCK



Insulux Glass Block is a functional building material—not merely a decoration. It is designed to do many things other materials cannot do. Investigate!

Order KoolShade® SUN SCREEN Now TO ASSURE INSTALLATION THIS SPRING!

This actual photo shows the complete visibility through KoolShade



For Cooler Comfort All Summer Long, No Shading Device Known Matches KoolShade's Efficiency

KoolShade Sun Screen makes sun-exposed rooms as much as 15° cooler . . . even on the hottest days! Here's how it works: KoolShade blocks and radiates up to 90% of sun heat rays *outside the window!* Yet vision from inside is clear, and every elusive breeze drifts through.

Where air conditioning systems are used, KoolShade reduces operating costs. On new installations an excellent cooling job can be accomplished with less refrigeration equipment when KoolShade is used on all sun-exposed windows.

KoolShade installs like ordinary insect screen . . . requires no maintenance . . . will never rot, rust or rattle . . . insect proof, too! Order now to assure installation before hot weather sets in!

NOTE THESE VALUABLE FEATURES

- Permanently set at 17° angle for greatest shading efficiency.
- Prevents the fading of valuable drapes and furnishings.
- Easy and inexpensive to install—will not rot, rust or rattle.
- Fits neatly and smoothly into modern architectural design.
- Durable bronze KoolShade also effective as insect screen.

MAIL THIS COUPON TODAY FOR
COOLER COMFORT ALL SUMMER! →

Ingersoll
KOOLSHADE® SUN SCREEN



PRODUCT OF
BORG-WARNER

* Trade Mark
Property of INGERSOLL STEEL DIVISION • BORG-WARNER CORPORATION

Partial Installations Can
Be Completed If You Act NOW!

Our many customers for whom we made test installations prior to the war, and those who accomplished only a partial installation, can now secure KoolShade for their remaining sun-exposed windows. But we urge you to act now—for the supply is limited.

Ingersoll Steel Division
Borg-Warner Corp., Dept. F3
310 South Michigan Ave., Chicago 4, Ill.

Please send free sample and literature, also the name of my nearest KoolShade distributor.

Name.....

Company.....

Address.....

City..... State.....

LETTERS

KITCHEN MAID OUT IN FRONT
WITH NEW
Appliance Styling



Kitchen cabinetry with the warmth of wood and the simplicity and distinction of modern Flo-line design—that's Kitchen Maid with new *Appliance Styling*.

Factory-built in standard units, and factory-finished, it meets all requirements of architect, builder and housewife.

Composite Construction of wood, metal and latest compositions, assures strength, flexibility, easy acting doors and drawers—lasting beauty. Numerous convenience features help minimize kitchen work.

See latest Sweet's Catalog or write for folder "Kitchens That Sing". The Kitchen Maid Corporation, 103 Snowden Street, Andrews, Indiana.

The increased demand for Kitchen Maid still exceeds production, but that condition is expected to change in 1947.

KITCHEN MAID
CABINETRY
Appliance Styling • Composite Construction

BOHN BONER

Forum:

Somebody from your office sent me a tear sheet of the news story "Housing Officials in Cleveland" (FORUM, Nov. '46). This I presume is the usual courtesy because my picture appeared in your valued journal.

I am afraid, however, that you are facing a libel suit to be brought by Lee Johnson. My name appears under the handsome visage of Johnson while his name is ascribed to the picture of your humble servant.

ERNEST J. BOHN

Cleveland, Ohio

We think you both win.—Ed.

AMERICANA

Forum:

Your excellent article, "Houses U.S.A.", appearing in the January FORUM, has been brought to my attention. It parallels exactly the material I have been covering in my course in American Art, and it occurs to me that this article, together with its subsequent installments, could be of important use in my teaching . . .

E. MAURICE BLOCH

University of Minnesota

Minneapolis, Minn.

A copy of the traveling exhibition on which this series is based is available through LIFE'S Department of Photographic Exhibitions.—Ed.

DISUNITED NATIONS

Forum:

In connection with the Rockefeller family's donation of a site for UN headquarters in New York City, popular reaction has probably been favorable due to the naivete of most of us.

Has it occurred to anyone that this gift is one of the greatest affronts to public dignity that has been attempted in our times?

Many of us have thought of the UN as an expression of humanity which should be beyond the need of alms. Why, why should this vast public organization, with the resources of all the world, accept any sort of gift from anyone, even a formal government gift?

Can't we see that this gift is another step in the program of a family which needs the cloak of philanthropy to continue its public relations?

Grant that Mr. Rockefeller might have been momentarily swept into doing this for humanity—isn't it very possible that the practicality of world-wide benevolent publicity was the deciding factor?

Why didn't someone in the UN have the honest courage to say openly that the UN is

(Continued on page 36)

**Don't let anyone
kid you!**



women want:

ELECTRIC WATER HEATERS

Surveys* show that women want Electric Water Heaters because of the following advantages: (1) SAFE (fumeless, flameless); (2) CLEAN (smokeless, sootless); (3) ADAPTABLE (short hot water lines; no flue or vent); (4) TROUBLE FREE (as electric light); (5) ECONOMICAL (plenty of hot water all the time at low cost).

That's why you should plan to install a modern Electric Water Heater in every house you build!

*1944 NEMA survey revealed 3 times as many women preferring Electric Water Heaters as owned them at that time!

Electric Water Heater Section

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
155 E. 44th Street, New York 17, N.Y.

B & F • CLARK • ELECTROMATIC • FOWLER •
FRIGIDAIRE • GENERAL ELECTRIC • HOTPOINT •
HOTSTREAM • JUD WHITEHEAD • KELVINATOR •
MONARCH • NORGE • PEMCO • REX • RHEEM •
SEIDELHUBER • SELECTRIC • SMITHWAY •
THERMO-GRAY • THERMO-WATT • UNIVERSAL •
WESTINGHOUSE

A HOUSE WIRED FOR
AN ELECTRIC RANGE IS . . .

already wired for an

**Electric
WATER HEATER!**



Will you be the GOAT

—ten years from now?

Why *should* you be the goat, and risk your present and future reputation, when it's a demonstrated fact that unless new homes are wired for ELECTRIC RANGES they're not modern now and will be even farther behind the times ten years from now. Survey after survey proves that!

Protect your reputation by building houses that are truly modern. Avoid kick-backs by including wiring for an Electric Range.

An Electric Range requires only: 3-wire service from point of cut-in to the distribution panel; a minimum of two No. 6 wires and one No. 8 wire; a 60-amp. switch with overload protection and a 3-wire circuit from the distribution panel to the range outlet in the kitchen. Make this your minimum wiring specification.

Electric Range Section NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
155 E. 44th Street, New York 17, N. Y.



A-B STOVES • ADMIRAL • CROSLEY • ESTATE
HEATROLA • FRIGIDAIRE • GENERAL ELECTRIC
GIBSON • HOTPOINT • KELVINATOR • LEDO
MONARCH • NORGE • QUALITY • UNIVERSAL
WESTINGHOUSE



TO KEEP THEM MODERN . . .

wire your houses
FOR ELECTRIC RANGES



HOW THE TRANE SUPERSENSITIVE THERMO-ELECTRIC ANEMOMETER HELPS PRODUCE BETTER

Weather Magic

Air movement is vital to human comfort. To study and measure the delicate differences between too much and too little air in motion—and apply that knowledge to Trane products—Trane laboratory engineers had to go beyond the ordinary devices for determining air velocity.

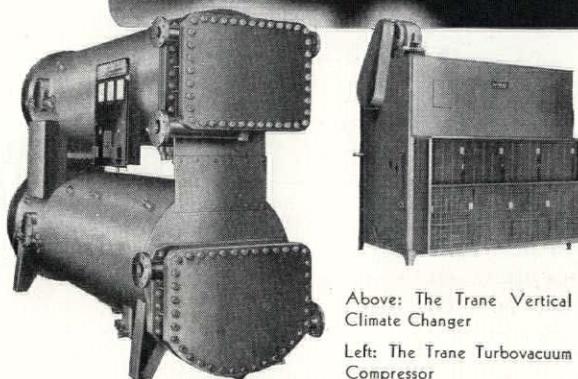
To achieve the precision in measuring very slight air currents they needed, Trane engineers developed a Supersensitive Thermo-Electric Anemometer, a device so responsive that a man's normal breath registers like a small hurricane on its dial. With this amazing instrument, Trane laboratory engineers are able to establish and

maintain exactly the amount of air in motion most conducive to human comfort.

Developing this Supersensitive Thermo-Electric Anemometer (sorry, but it's not for sale) is one more example of the ingenuity of the men who engineer and produce the complete line of Trane matched products—products that are designed and built together for use together.

More than 200 Trane Field Engineers in principal cities all over the country co-operate with architects, engineers, and contractors in the application of Trane products and systems—the utilization of Trane Weather Magic.

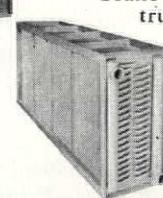
ONLY TRANE AIR CONDITIONING PRODUCTS CAN PRODUCE
Weather Magic



Above: The Trane Vertical Climate Changer

Left: The Trane Turbovacuum Compressor

Right: A Trane Cooling Coil



The adaptability and versatility of Trane products make them ideal for any comfort or process air conditioning application.

The Trane Turbovacuum Compressor is a self-contained centrifugal compressor. Virtually an entire equipment room is housed within this quiet, almost vibrationless machine.

Trane Climate Changers perform every function of true air conditioning in any combination—heating, cooling, humidification, dehumidification, filtering, and circulation.

The heart of any Trane air conditioning system is the famed Trane tube and fin cooling coil. There are Trane Cooling Coil types for clean or sedimented chilled water and for direct expansion refrigerants.

THE TRANE COMPANY
The House of Weather Magic

LA CROSSE • WISCONSIN
TRANE COMPANY OF CANADA, LTD., TORONTO
MANUFACTURING ENGINEERS OF HEATING AND AIR CONDITIONING EQUIPMENT

SELF-CONTAINED AIR CONDITIONERS

CONVECTOR-RADIATORS

COMPRESSORS

CLIMATE CHANGERS

UNIT HEATERS

HEATING COILS

HOT WATER PRODUCTS

STEAM HEATING SPECIALTIES

SHELL AND TUBE HEAT EXCHANGERS

EVAPORATIVE CONDENSERS

CENTRIFUGAL FANS

Now your clients will ask you about REYNOLDS Lifetime ALUMINUM SHINGLES AND CLAPBOARD SIDING

Look...

ALUMINUM SHINGLES

ALUMINUM CLAPBOARD

Made by the Reynolds Metals Company
...in mass production and available now!

Fire-proof, Rust-proof . . . Rot,
Vermin and Termite-proof . . .
Year-round insulation by
Reynolds Metal Refineries™!

to apply. Each clapboard fits
snugly into the one below,
straight as a die without any
bending. And the shingles cover a roof with amaz-
ing speed and precision . . . locking at the sides in
tiny heads of top and bottom, weather-tight and
self-aligning.

Your architect will be delighted, too. He knows
Reynolds . . . who not America's favorite metal with
a great new source of aluminum and all aluminum
engineering. He knows that the lightness, strength
and natural beauty of aluminum will give new wear
and modern design. Tell him you are modern
and you will much prefer to specify Reynolds Life-
time Aluminum Shingles and Clapboards.

**Reproduced above is the initial full-color
center spread in The Saturday Evening Post
...beginning a full schedule of 4-color
pages in The S.E.P., Better Homes & Gardens,
House Beautiful and The American Home.**



Reynolds Lifetime Aluminum Building Products

HUNDREDS OF MILLIONS OF SQUARE FEET ALREADY PRODUCED AND DELIVERED

CLAPBOARD SIDING AND ROOFING — Two corrugated
widths 7½" and 10" and 12-foot lengths.
Widths 7½", 10", 12", 15" and 18-foot lengths.
Aluminum Clapboard and Clapboard Roof.

ROOFING — Sheet aluminum and corrugated
widths 7½", 10", 12", 15" and 18-foot lengths.
Sheet aluminum and corrugated widths 7½", 10", 12", 15" and 18-foot lengths. 24" and 30" widths.
Aluminum Snap-Seal Roof.

WALL INSULATION — Sheet rolling insulation with outer
sheet of aluminum or vinyl. Widths 7½", 10", 12", 15" and 18-foot lengths. 24" and 30" widths.
Aluminum Snap-Seal Wall Insulation.

DO YOU WANT TO KNOW IT'S NOT
ALUMINUM?

REYNOLDS
LIFETIME ALUMINUM
BUILDING PRODUCTS

REYNOLDS METALS COMPANY • BUILDING PRODUCTS DIVISION • LOUISVILLE 1, KY.

SUPERIOR QUALITY • SUPERIOR COLOR • SUPERIOR DURABILITY • LIGHTWEIGHT • EASY TO HANDLE • EASY TO INSTALL • REFLECTIVE INSULATION • ECONOMIC PRICES

WE'RE telling your clients about the advantages of aluminum building materials . . . fire-proof, rust-proof, rot-proof, vermin-proof . . . giving better appearance, greater comfort, more lasting value for the 1947 building dollar.

You'll find new scope for architectural design in these modern materials. Choose between the traditional effect of clapboard siding, with either individual shingles or the handsome, low-cost, big-sheet "Snap-Seal" roofing. The aluminum weathers to a beautiful dull-gray to blend with any architectural style. Or it takes paint well when desired.

Another big architectural point is the insulation value! Aluminum reflects up

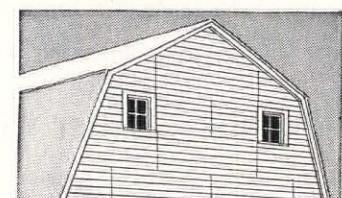
to 95% of all radiant heat. Keeps an interior amazingly cooler in summer—and warmer in winter, with less fuel.

Be prepared for this national advertising...which will have your clients asking you all about Reynolds Lifetime Aluminum Building Products. Write now for your A.I.A. Files. Reynolds Metals Company, Building Products Division, Louisville 1, Kentucky.

Available now in any quantity!



"SNAP-SEAL" ROOFING gives the economy of big-sheet installation plus handsome weathertight interlock which covers all nails. Suitable for finest buildings—home, farm, commercial, industrial.



WEATHERBOARD SIDING gives economical big-sheet coverage in a handsome four-inch clapboard effect. Special corner posts for neat finishing.

Aluminum Corrugated and 5-V Crimp Roofing and Siding, Studs, Trusses, Window Frames, Garage Doors, Reflective Insulation, Complete Aluminum Houses.

Hundreds of millions of square feet already produced and delivered:

LETTERS

Now!

**Modulated Heat for
homes of every price class...**



with Low Cost

**Taco's new Taco-Matic Valve
for forced hot water heating**

*Taco
Scoops
the Field*

1-

TACO-MATIC
Modulates heating system temperatures to meet changing outdoor weather conditions.

2-

Gives protected Tankless Heater performance.

At last the home owner in every price range can have de luxe modulated heat at unbelievably low cost with Taco's new TACO-MATIC valve.

TACO-MATIC thermostatically permits a gradual buildup of water temperature in the radiators with intermittent circulator operation.

**Prevents Overheating
Spreads Heat Evenly
Throughout Home**

Since radiator water temperatures are increased gradually, no radiators have extremely high temperature water to give off heat in mild weather long after the thermostat is satisfied. This gradual buildup of temperature in the system makes possible a longer circulator operation which in turn distributes the heat more evenly through system, even to the farthest radiators.

Protected Tankless Heater Operation

Since TACO-MATIC closes tightly at approximately 180°F., boiler water is kept in the boiler when it drops below 180°F. and thus an ample supply of Tankless hot water is assured.

Write for new folder on this unbelievably low cost key to modulated heat.

Better Heating — Better with Taco



TACO HEATERS, INC.
342 Madison Ave., New York 17

In Canada:
Taco Heaters of Canada, Ltd. • 24 Adelaide St., W., Toronto

above financial charity, that it must maintain impartiality in its task of leading all of us to better world conditions?

CARL JOHN STERNER
Los Angeles, Calif.

Forum:

Here is the first sensible article (*Boston Daily Globe*, Dec. 16, '46) I've seen on the tragedy of the UN site business:

'STEAM ROLLER TACTICS USED TO LOCATE U.N. IN NEW YORK'

by Carlyle Holt

"The rawest action put over during the session of the General Assembly of the United Nations just concluded here was the decision to house the permanent quarters in 18 acres of Manhattan on the East River between 43rd and 48th Streets.

"The United States must bear full responsibility for a choice that conforms to few of the expressed preferences and criteria drawn up to guide a choice of a site and is in direct contradiction to most of the more important requirements.

"But for Americans the chief concern in this matter should be the methods, reminiscent of the less commendable tactics of ward politics, by which the decision was forced on a reluctant assembly by the United States. The strong arm tactics and steam roller methods used to put over the choice were American.

"In London last winter the Assembly voted that the minimum requirement of space for their permanent headquarters should be two square miles, or 1,280 acres. They have now settled for 18 acres. The Assembly also voted to keep their capital outside urban surroundings, so that it might develop as a community of its own; so that its permanent employees might have good living conditions in a pleasant environment. The employees will have none of these conditions along the East River, but will be lost in the throngs who commute into and out of New York daily.

Political Methods Used

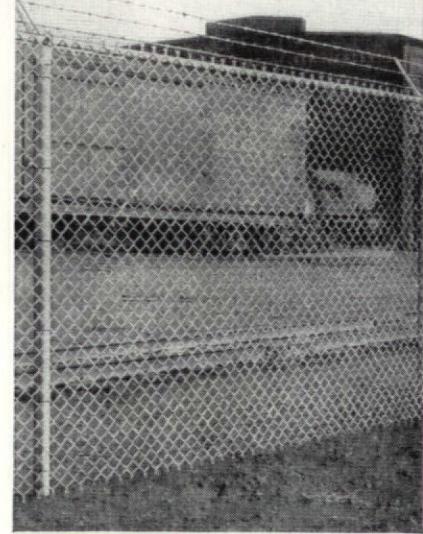
"A quick resume of the sequence of events is sufficient to indicate the political methods used by the chief United States delegate, Warren R. Austin of Vermont, to ram the Manhattan project through the Assembly. This sequence began Friday evening, December 6, at a meeting of the headquarters committee.

"At that meeting Senator Austin obtained an adjournment of the committee until the following Monday 'out of courtesy' to the committee chairman, Dr. Zuleta Angel of Colombia, who was ill...

"On Monday, December 9, Dr. Angel, apparently much refreshed, took his place

(Continued on page 40)

**How to
SOLVE YOUR
CLIENTS' FENCE
PROBLEMS!**



There are a lot of points to be checked in specifying fence—and Anchor Chain Link Fence's four exclusive features hold the answer to all of them. Here's why an Anchor Fence will insure your clients' maximum protection for long years of service:

1. *Deep-Driven Anchors* hold the fence permanently erect and in line, in any soil or weather, yet permit easy relocation where necessary. 2. *Square Frame Gates* are amazingly free from warping and sagging. 3. *U-Bar Line Posts* are self-draining, rust-free and rigid. 4. *Square Terminal Posts* improve strength, durability and appearance.

SEND FOR YOUR FREE COPY OF OUR BOOK, "Anchor Protective Fences," for your A.I.A. File 14-K. It's both a catalog and specification manual. Shows many types and uses of Anchor Chain Link Fence . . . pictures installations for many prominent companies and institutions . . . contains structural diagrams and specification tables. Just ask for Book No. 110. Address: ANCHOR POST FENCE DIV., Anchor Post Products, Inc., 6635 Eastern Ave., Baltimore 24, Maryland.

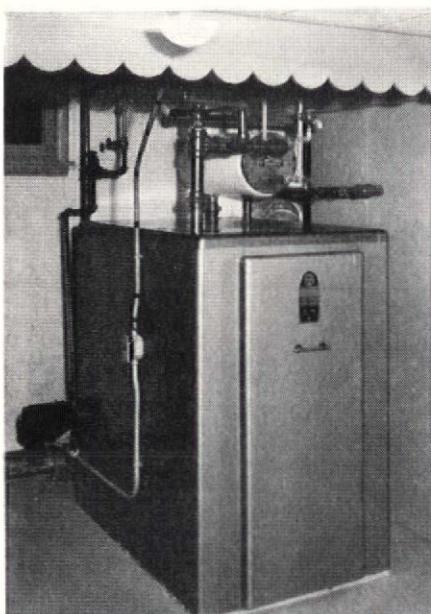
Anchor Fence
Nation-wide Sales and Erecting Service

FOR CONVECTOR
HEATING AT ITS BEST



COMFORTABLE—NEAT—ECONOMICAL

... OR, IN OTHER WORDS, A B & G HYDRO-FLO HEATING SYSTEM

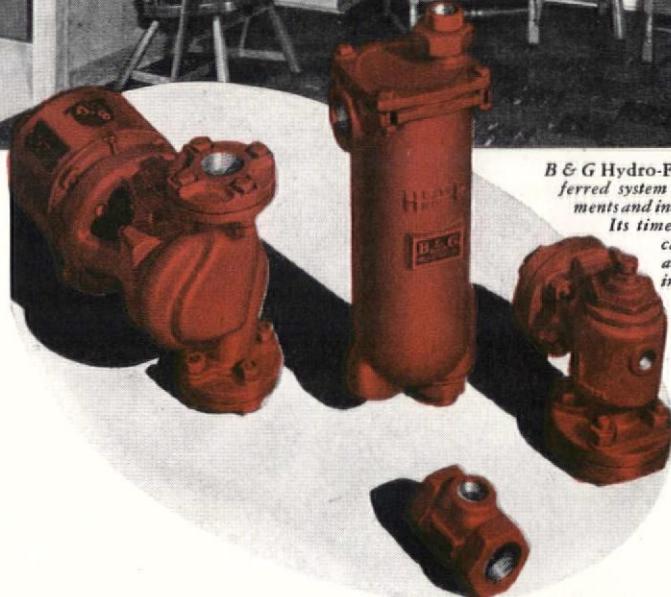


This B & G Hydro-Flo Heating installation with convectors is a credit to the installing contractor for his good workmanship and to the builder for his good judgment. Just as for all other kinds of radiation, convectors are best served by forced hot water!

B & G Hydro-Flo Heating provides smooth, positive control of heating medium temperatures . . . automatically adjusting the heat supply to meet changes in the weather. With simple, dependable equipment, indoor temperature is maintained uniformly at whatever degree is desired.

This system is really versatile! Note the unit heater in the recreation room—it serves to quickly dry those articles of clothing every woman prefers to launder herself. Note, too, the space-saving neatness of the single main Monoflo piping . . . the compact boiler hook-up.

If you haven't complete information on B & G Hydro-Flo Heating Systems, write today.



B & G Hydro-Flo Heat is the preferred system for homes, apartments and industrial buildings. Its time-tested equipment can be installed on any hot water heating boiler.

PLENTY OF HOT WATER, TOO

The cost of hot water for personal and household cleanliness is an important consideration for today's home owner. Remember that modern labor-saving devices, such as dish and clothes washers need plenty of hot water for satisfactory operation. The B & G Hydro-Flo Water Heater provides it—all around the clock and calendar—at so low a cost that it can be used unsparingly.



Hydro-Flo* HEAT

BELL & GOSSETT COMPANY
Dept. X-10, Morton Grove, Illinois

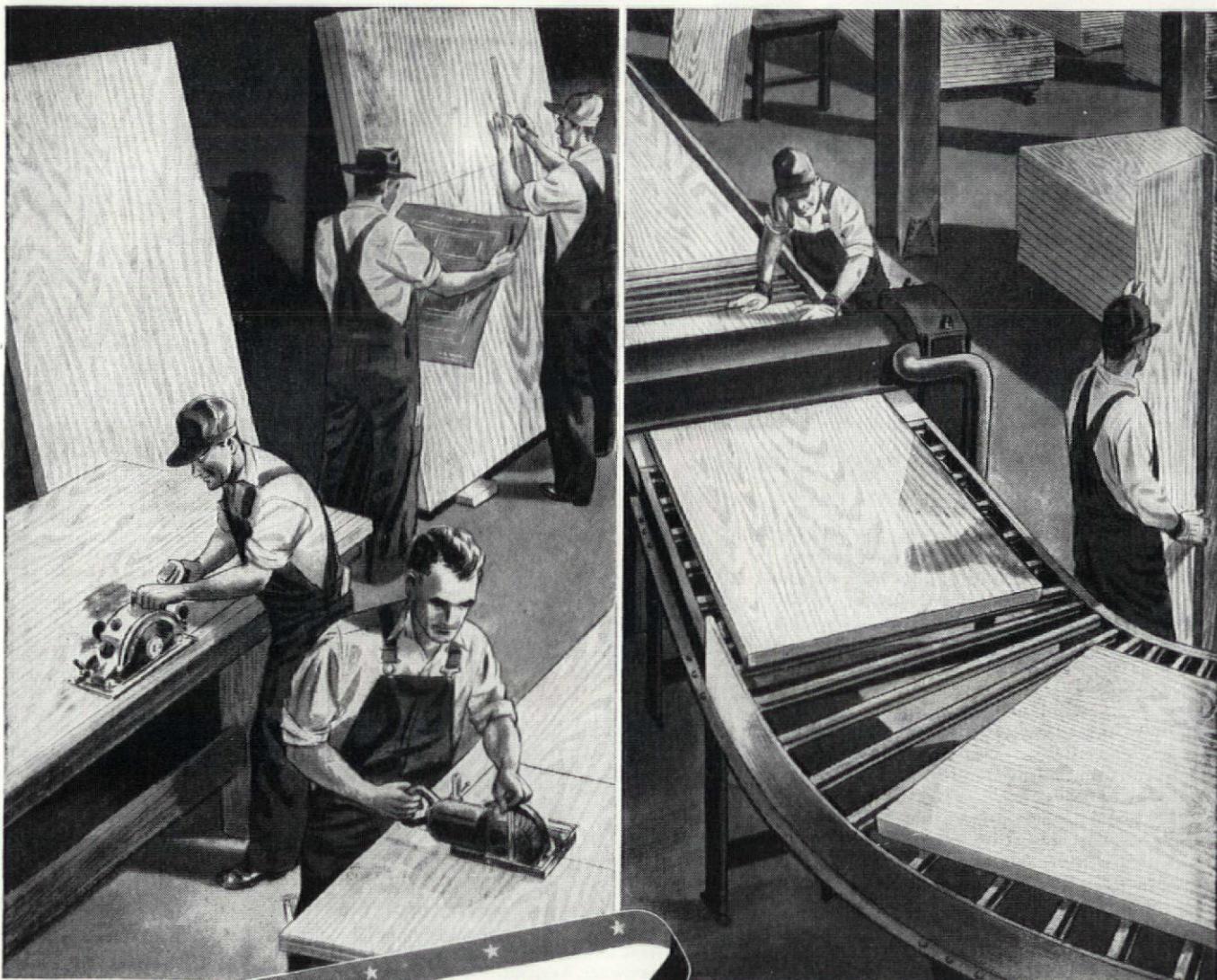
*REG. U. S. PAT. OFF.

Stock Sizes Mean *Door and Plywood* *Dividends for Our Customers—*

Percentage-wise, it's quite a dividend. By concentrating all our production on stock size doors and plywood, production can be increased a minimum of one-third.

For instance, the man-hours required to cut three lights, will produce a complete stock door. Odd sizes and other special details further limit production

by added labor and material demands. The elimination today of all special doors — and concentration of our manpower and machines on stock sizes is a policy dictated by our customers' needs. It means more Roddiscraft Doors and Plywood for everybody — plus stocks in the warehouses for delivery where and when you want them.



Roddiscraft
Roddis Lumber & Veneer Co.
MARSHFIELD, WISCONSIN

Roddiscraft WAREHOUSES

CAMBRIDGE 39, MASS.	229 Vassar Street
CHICAGO 8, ILL.	1440 W. Cermak Road
CINCINNATI 2, OHIO	457 E. Sixth Street
DALLAS 10, TEXAS	2800 Madill Street
DETROIT, MICH.	11855 E. Jefferson Ave.
KANSAS CITY 8, MO.	2729 Southwest Blvd.
LOUISVILLE 10, KENTUCKY	1201-5 S. 15th Street
LONG ISLAND CITY, N. Y.	Review & Greenpoint Ave.
MARSHFIELD, WIS.	115 S. Palmetto Street
MILWAUKEE 8, WIS.	4601 W. State Street
NEW YORK CITY, N. Y.	920 E. 149th Street
SAN ANTONIO, TEXAS	727 N. Cherry Street

DEALERS IN ALL PRINCIPAL CITIES



**Mueller Climatrol gives your clients the
True Indoor Comfort of "Climate Control"**

Climatrol delivers the essential comfort factors by conditioning and handling the air in the home

Every client wants comfort for his home—comfort up to today's higher standards. Mueller Climatrol is your satisfactory answer to this requirement—to the general demand for comfort at its best, and to individual needs.

You can recommend the size and type of Climatrol unit that's right for every job. Each model is designed specifically for economical and efficient operation with any one of the three popular fuels your client may prefer — gas, oil, or coal.

Most important of all, Climatrol gives your clients a system basically designed to condition and handle air in the home, and easily adapted to future air-conditioning developments.

Every Climatrol is backed by Mueller's 90-year performance record as a specialist in supplying home comfort. For certain satisfaction on every job, recommend Mueller Climatrol.

Write for bulletins.

L. J. Mueller Furnace Co.

2001 W. Oklahoma Ave. • Milwaukee 7, Wisconsin



MUELLER
Climatrol
Reg. U. S. Pat. Off.

B-34

LETTERS



Cabot's Stains give Natural Beauty

TO ANY DESIGN IN ANY SITE

The rich, penetrating colors of Cabot's Stains bring out all the natural beauty of the wood. A wide color range from brilliant hues to weathering browns and greys, enables you to pick exactly the right stain for any design in any setting.

Long Lasting Protection

Cabot's Stains contain a high proportion (60% to 90%) of undiluted creosote oil, the best wood preservative known. This ensures long lasting protection for all exterior woodwork.

Economy

Cabot's Stains cost less than half as much as good paint. They are quick and easy to apply . . . do not peel or blister, even on green lumber.

FREE BOOKLET "Stained Houses" contains complete information and illustrations. Samuel Cabot, Inc., 1301 Oliver Bldg., Boston 9, Mass.

Cabot's Creosote Shingle Stains



at the head of the table. On that evening Mr. Austin introduced a resolution to postpone the entire decision until the next General Assembly, pleading that time was required, that a sound decision was more necessary than a prompt decision. Thereby Mr. Austin ate the words he had spoken at an early plenary session urging the great need for reaching a decision at this session lest the public gain the impression that the United Nations was unable to make up its mind on a subject it had had under consideration for more than a year.

"Mr. Austin's action irritated many delegates. Strong objections were raised to further postponement. But in the end the delegates were compelled to agree, because Mr. Austin departed early leaving in his place a minor staff member of the American delegation, and escaped the need for answering many embarrassing questions.

"So the headquarters committee, again with reluctance, accepted a postponement. It should be remembered that ever since Friday night the committee had been ready to vote as between Philadelphia, San Francisco and New York, with the first two cities way out in front for preference.

"Having voted a 24-hour postponement, the committee then found itself confronted by Asst. Secretary General Adrian Pelt of the Netherlands. Mr. Pelt was awfully sorry but he did not see how the secretariat could find accommodations and personnel for the committee to meet on the following day . . . The earliest date he could give the headquarters committee with any confidence was Wednesday. So the committee had to take . . . another two-day postponement.

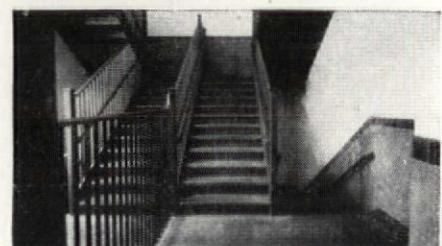
"Wednesday Mr. Austin produced the Rockefeller offer of \$8,500,000 and went into ecstatic paeans of praise for its unparalleled generosity. The Pennsylvania guarantee of a free site and \$20,000,000 of improvements on the site had never been mentioned nor has Senator Austin ever mentioned the Boston offers.

"Mr. Austin urged the committee to appoint a subcommittee to inspect the new site. Again with obvious reluctance the committee acceded to his wishes. The committee was appointed, to report Thursday, the following day. Thursday evening, December 12, at 7:30 the subcommittee report was before the full headquarters committee.

Report Less Enthusiastic

"This report was less than enthusiastic about the site. The subcommittee stated, with commendable restraint, that the East River site 'would be excellent for the construction of a vertical type of urban headquarters for the United Nations in Man-
(Continued on page 44)

A SAFE FOOTING



Alberene Stone Treads and Landings, Woodrow Wilson High School, Washington, D. C., Nathan Wyeth, Architect.

ALBERENE STONE TREADS

For more than 40 years Alberene Stone has been the choice for treads, platforms and floors subject to severe daily use in schools, hospitals and public buildings. Its natural highly-toothed surface is safe, wet or dry. The selected, extremely hard Tread Stock meets every requirement of durability, upkeep and appearance.

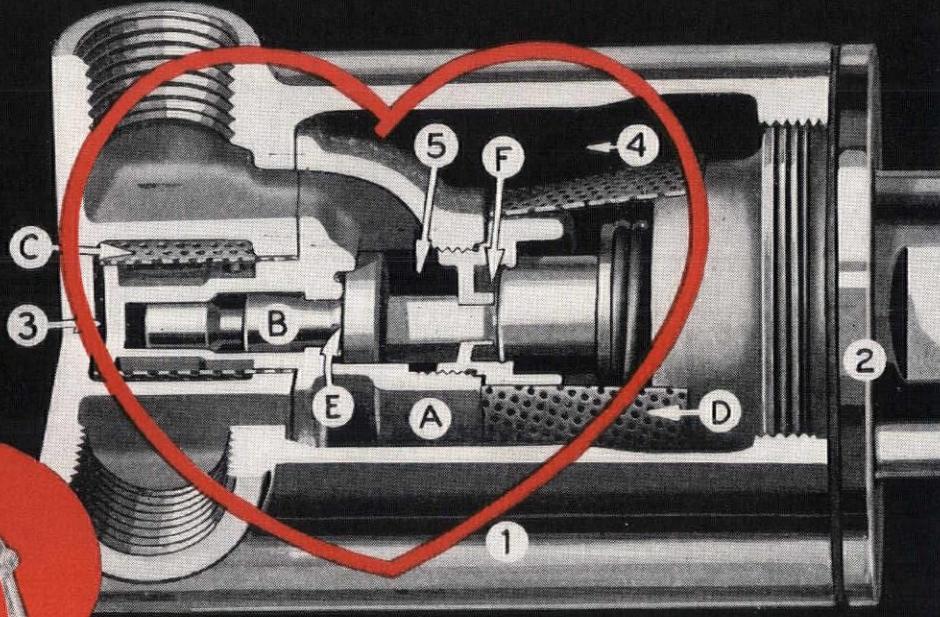
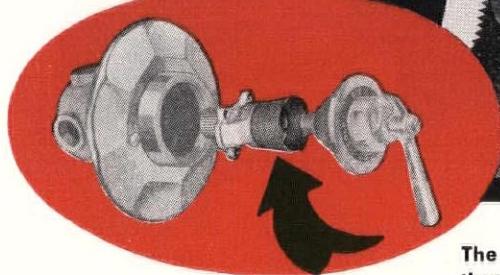
The regular grade Alberene Stone is equally popular for toilet and shower compartments. Tongue-and-groove interlocking construction produces liquid-tight joints. Its light, blue-gray color is harmonious and the stone is close-grained and practically non-absorbent and non-staining. For complete data and samples please address Alberene Stone Corporation of Virginia, 419—4th Ave., New York 16, N. Y. Quarries and Mills at Schuyler, Virginia. Sales Offices in principal cities.

ALBERENE STONE

THE NATURAL STONE
OF DIVERSIFIED UTILITY



1. One-piece bronze body
2. Removable bronze bonnet
3. Cold water chamber
4. Hot water chamber
5. Mixing chamber
"Heart-of-Valve" consisting of:
A. Cage carrying operating mechanism
B. Hydraulic-type shuttle valve
C. Bronze screen protecting cold water port
D. Bronze screen protecting hot water port
E. Neoprene cold water valve seat
F. Neoprene hot water valve seat



Maintenance is simple and easy. All working parts are combined in the "heart of valve" unit easily accessible by removing valve bonnet. Old unit can be removed and new unit installed in a jiffy. "Heart of valve" renewal units are available in individual packages.

The Josam Moderator Mixing Valve assures lasting shower bathing pleasure through simplicity of construction. A single moving part—the hydraulically operated shuttle valve—keeps hot and cold water "in balance" at the selected temperature and prevents accidental scalding. This shuttle valve is enclosed in the "heart of the valve"—a unit in which all working parts are combined. Even after years of wear or rough usage, there is no need of expensive replacement. All you do is replace the old "heart of valve" with a new one...and the valve is as good as new! The Josam Moderator Mixing Valve is ideal for residences, apartments, schools, colleges, hotels, clubs, institutions, factories, or wherever shower bathing is a regular routine. Fits readily into all standard shower installations. Send coupon below for complete details today!

JOSAM MANUFACTURING COMPANY

CLEVELAND 14, OHIO

PLANT, MICHIGAN CITY, INDIANA

Representatives in all Principal Cities

JOSAM - PACIFIC CO.—West Coast Distributors
EMPIRE BRASS COMPANY, LTD.—Canadian Distributors

See our Catalog in Domestic Engineering Directory

JOSAM MFG. CO. 301 Ferguson Bldg., Cleveland 14, Ohio

Send new literature on Josam Moderator Mixing Valve to

NAME _____

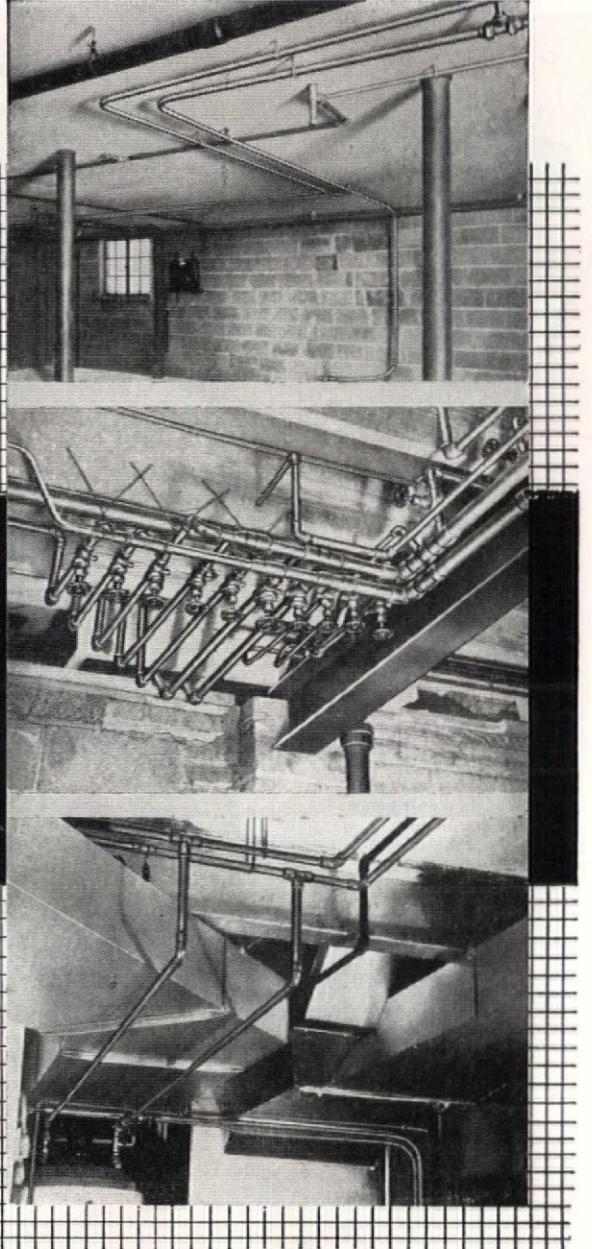
FIRM _____

ADDRESS _____

CITY _____ STATE _____



**Any type of system
works better, →
lasts longer with
REVERE COPPER**



REVERE Copper Water Tube, because of its smooth gun-barrel interior finish and its permanent immunity to rust, makes superior lines for heating and water service. Hot water can circulate freely at high velocity. Steam return lines stay corrosion-resistant. Hot and cold water flows unobstructed to the taps, remains rust-free and clear. Joints made with either soldered or compression fittings help further to minimize friction loss.

Revere Copper Water Tube is made for water supply, heating, air conditioning and other services in all types of buildings. The Revere name and the type, stamped on this tube at regular intervals, are your assurance of full wall thickness and the close gauge tolerances essential for tight sweated joints.

Remember, when you specify this product you are saving money for your clients, because trouble always costs more than Revere Copper Water Tube.

You can also specify such long-lived Revere materials as Red-Brass Pipe; Sheet Copper for tanks, ducts, pans and trays; Dryseal Copper Refrigeration Tube (dehydrated and sealed); Copper oil burner, heat control and capillary tubes . . . and, of course, Sheet Copper for roofing, flashing and other sheet metal construction.

Revere materials are handled by Revere Distributors in all parts of the country. The Revere Technical Advisory Service, Architectural, is always ready to serve you.

REVERE
COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.;

New Bedford, Mass.; Rome, N. Y.

Sales Offices in Principal Cities, Distributors Everywhere.

PENBERTHY
TRADE
PRODUCTS
MARK

A Distinguished Name...

A Distinguished Product

PENBERTHY
AUTOMATIC ELECTRIC
SUMP PUMPS

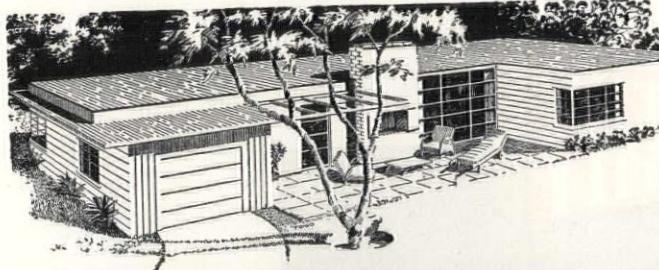
For sixty (60) years, the name "Penberthy" has been associated with products of the highest quality.

Wherever seepage water accumulates, Penberthy Automatic Electric Sump Pumps have established an outstanding reputation for dependability and long life. Made of copper and bronze throughout, they are immune to the attacks of corrosion. Penberthy Sump Pumps are available in three types; the Model M shown here is made for five different sump depths. They are preferred wherever quality is appreciated.

CONSTRUCTED OF COPPER AND BRONZE THROUGHOUT

PENBERTHY INJECTOR COMPANY
Manufacturers of Quality Products Since 1886
DETROIT 2, MICHIGAN
Canadian Plant—Windsor, Ontario

LETTERS



A bonus for buildings!

New **EAGLE Ready-To-Use WHITE LEAD PAINT**

Born with a
2000-year-old pedigree



The glory of a brilliant white gloss that *holds* its whiteness can now be given to your buildings. And because of meticulous care in mixing, Eagle Ready-To-Use White Lead Paint possesses an exceptional smoothness that makes it more useful to property owners, easier to use for painters. It delivers to your clients a paint job that surpasses their greatest expectations, and enhances your reputation.

Traditional white lead in a new, convenient form

Eagle RTU Paint is backed by the 2000-year-old white lead reputation plus more than a century of Eagle-Picher paint making experience. It preserves the durability, beauty and economy made famous by white lead . . . and adds new, time-saving convenience. You can specify it with complete confidence.

Two forms: Primer Sealer and Outside White Finish Coat. One, two and five gallon pails.

THE EAGLE-PICHER COMPANY
Cincinnati (1), Ohio
Member of the Lead Industries Association

• • • • •
A 103-YEAR-OLD FAVORITE

**EAGLE PURE
WHITE LEAD
Paint**

hattan.' Since the General Assembly was on record as opposed to an urban location and had clearly not previously been impressed by the desirability of a vertical headquarters, the report could not be considered as unqualified endorsement of the Turtle Bay area . . .

"However, Mr. Austin on this fateful Thursday evening, easily swallowing his argument of three days previously for delay and due and deliberate consideration of all factors, introduced a resolution for immediate acceptance of the Manhattan site that evening . . .

"The headquarters committee was a pathetic sight as it succumbed to American pressure. One by one, delegates arose, apologized for their votes but declared they must abide by instructions and therefore would vote for Mr. Austin's motion . . .

"Only the representatives of Australia, N.J.O. Makin, and a few of the Arabian states spoke in opposition. But, after all, few of the delegates wanted to oppose the host country on a matter like this. So the motion was duly adopted, and Mr. Austin's Manhattan skyscraper was put over amid no applause at all.

No Consideration of Cost

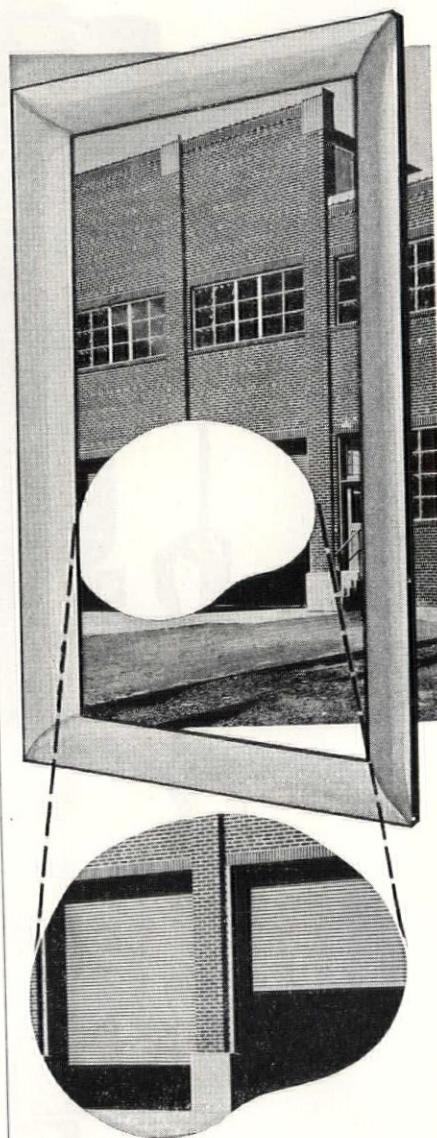
"No debate as to the merits of the respective sites, no comparisons, no consideration as to costs, were permitted. Thus the Assembly, after deliberating for nearly a year, after spending many thousands of dollars for research and investigation, and after writing several long reports, finally chose a site that had been offered 24 hours previously and did so without any significant debate . . .

"Mr. Austin bore down on his acceptance of Turtle Bay and on the necessity of seizing the opportunity at once.

"On whose authority the American decision was made has not been revealed. The reasons underlying the American decision are likewise obscure.

"The clear fact about the choice of site is that, in the end, the selection was dictated without any regard for criteria and preferences previously adopted by the Assembly. Foreign diplomatic representatives are probably too polite to demand the reasons for the American decision, but there seems no sound reason why anybody else should be so restrained. After all, it was not merely the United Nations that was had, it was also the people of San Francisco, Philadelphia and Boston, among others, who had deluded themselves that this question of site would be decided impartially and on its merits."

WILLIAM W. WURSTER, Dean
Massachusetts Institute of Technology
Cambridge, Mass.



Kinnear Rolling Doors Complete the Picture

You can be sure of fullest efficiency at every doorway when you install Kinnear Rolling Doors. Their coiling upward action saves floor and wall space. The doors remain out of the way and safe from damage when opened. All-steel construction brings extra protection and longer life. For added speed and convenience, motor operation may be incorporated, with any number of extra control stations at remote points. Write for details on Kinnear Rolling Doors.

The KINNEAR Manufacturing Company
Factories: 1640-60 Fields Ave., Columbus 16, O.
1742 Yosemite Ave., San Francisco 24, Calif.
(Offices and Agents in all Principal Cities)

Saving Ways in Doorways
KINNEAR
ROLLING DOORS

S E R V I N G - T H R O U G H S C I E N C E



comfort
put



Wherever
counts



U.S.
Koylon
FOAM

IF COMFORT counts—count on making more friends, and sales, with Koylon Foam. For this wonder material—proved by 12 years of testing—provides matchless comfort for sitting or sleeping!

Koylon meets every requirement for the kind of comfort people want in the way you can provide it best . . . easily, economically and permanently. From homes to hotels . . . from automobiles to trains and planes, wherever people sit or sleep, it pays to specify Koylon Foam.

Buoyant Comfort

Resilient

Clean

Sag-Proof

Long-Wearing

Air, captured in millions of tiny latex cells, is put to work for comfort.

Responds to a finger touch—yet supports a "heavyweight" with ease

It "breathes" fresh air! Odorless. Vermin-proof. Washable with plain soap and water.

Keeps up in appearance as well as in comfort. Needs no fluffing. Never mats, sags or bulges.

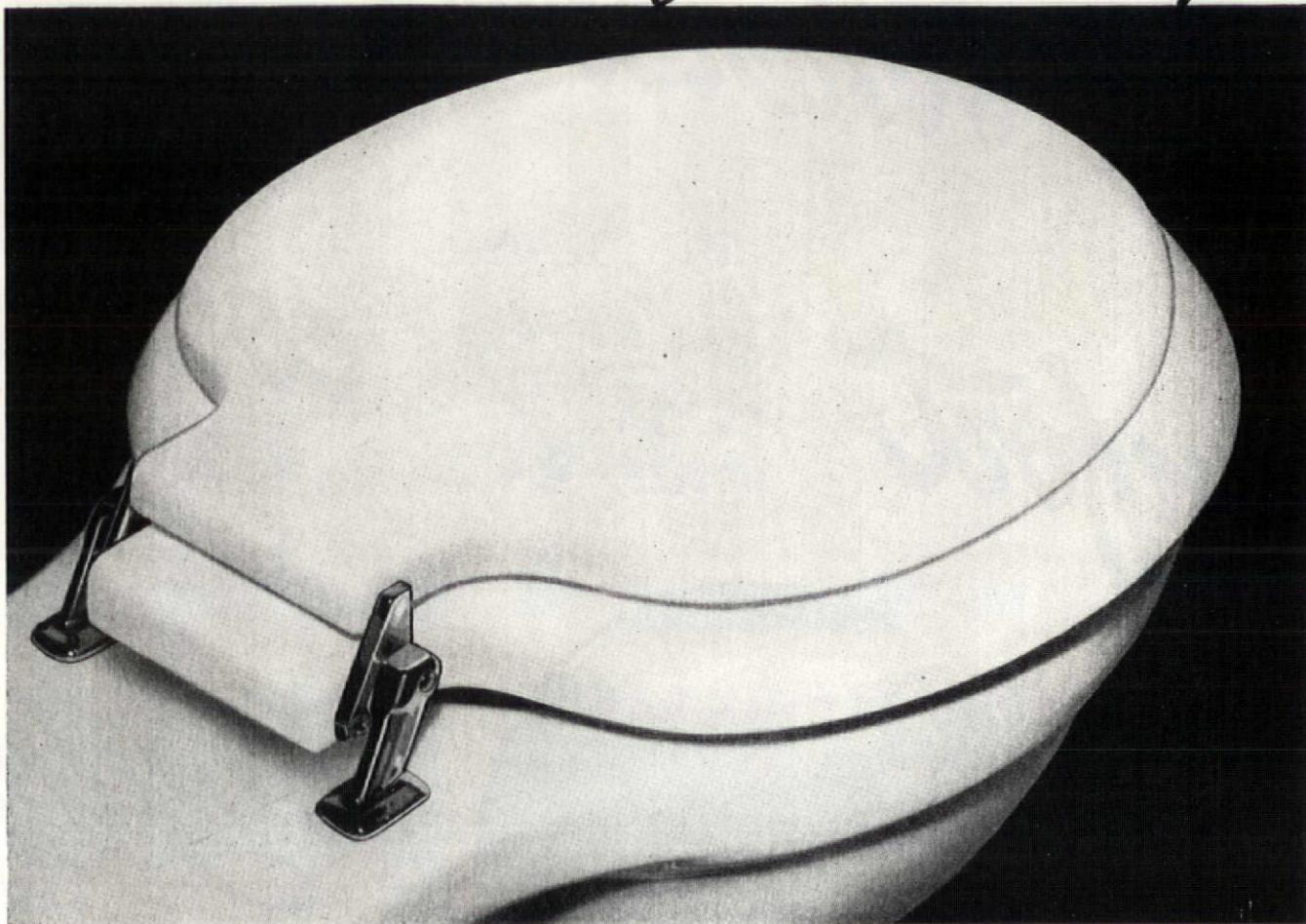
12 years of testing on major railroads prove Koylon can take years of wear.



UNITED STATES RUBBER COMPANY

U. S. Koylon Foam Division, Mishawaka, Indiana

First Choice for Quality



When clients see the name CHURCH in your specifications they know you have recommended a toilet seat of unquestioned quality. They accept your recommendation because they know Church Seats . . . for outstanding resistance to wear . . . for fine appearance . . . for low-cost maintenance.

Church Seats . . . Mol-Tex, Sheet Covered, or Hard Rubber . . . have proved themselves on all installations, industrial, commercial, institutional, and home. They assure client satisfaction.

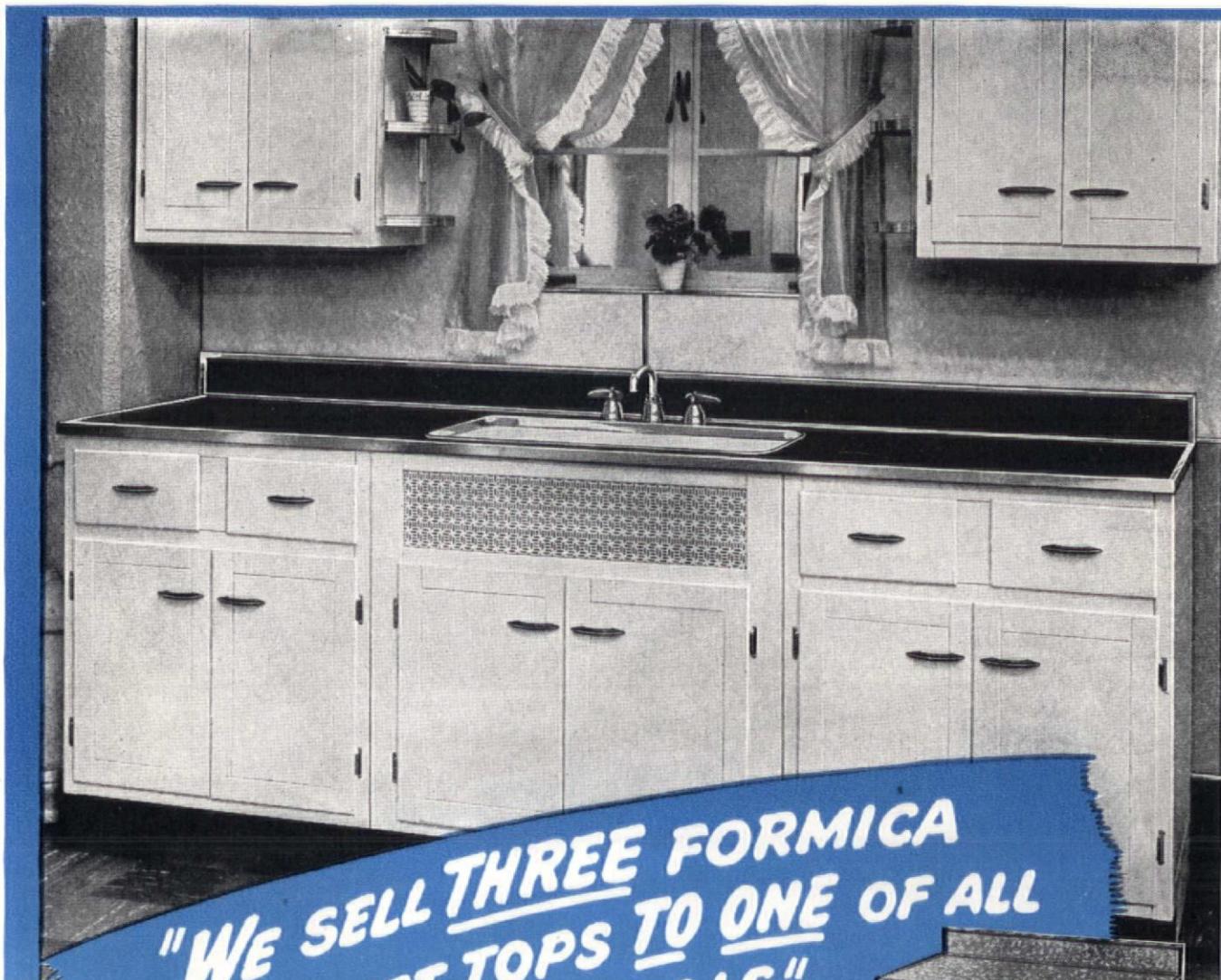
Specify Church Seats — the preferred choice for *all* buildings.

CHURCH SEATS

"THE BEST SEAT IN THE HOUSE"

C. F. CHURCH MFG. CO. • HOLYOKE, MASS.

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION



**"WE SELL THREE FORMICA
CABINET TOPS TO ONE OF ALL
OTHER MATERIALS"**

CINCINNATI BUILDERS SUPPLY CO.

The rather startling statement that Formica kitchen cabinet tops displayed with other materials on the same sales floor are now outselling all other materials combined by three to one, has been made not only by one producer of such tops, but by several.

It shows definitely the new trend in post war cabinet tops.

Formica supplies one-sixteenth sheet in black, or attractive colored patterns to producers of tops and they assemble the tops in accordance with their own or Formica specifications to water resistant plywood, by the use of water resistant glue, and trim the tops with metal moldings.

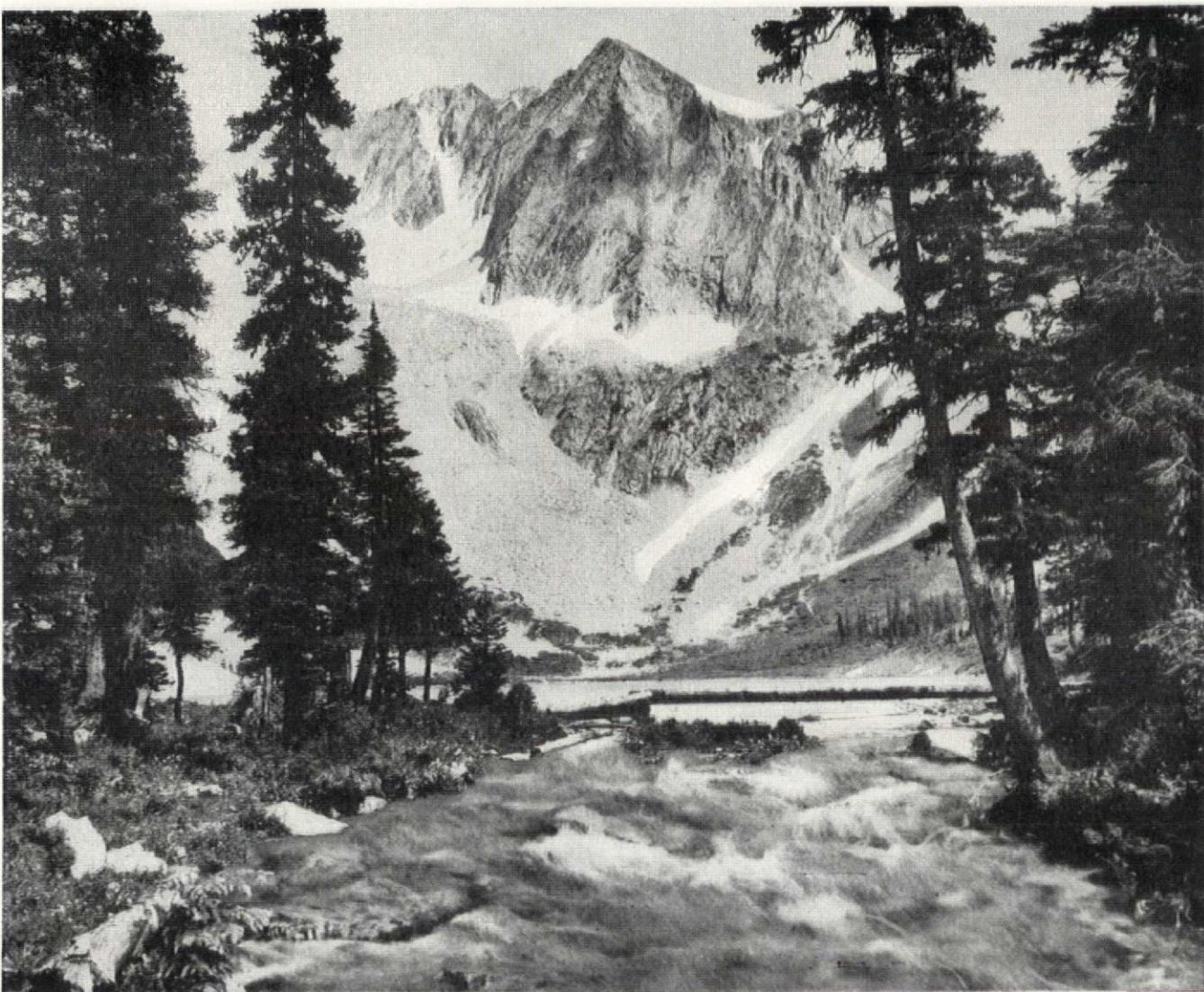
The result is handsome and very easy to sell. Better still, it is very durable and retains its good looks through years of use. Color schemes are available to harmonize with all kitchen treatments.

Let us give you the facts.



FORMICA
TRADE MARK REG. U.S. PAT. OFF.

THE FORMICA INSULATION CO., 4620 SPRING GROVE AVE., CINCINNATI 32, OHIO



"There were giants in the earth . . ."

America, above all lands, is blessed with Nature's lavish gifts.

And since it was given to man to have "dominion over all the earth," it is fortunate for mankind that Americans are custodians of so great a store of the world's natural resources . . . modern-day giants in the earth. For Americans are not a race but a *melt* of peoples, combining the wisdom, strength, ingenuity and idealism of many. A people whose blended characteristics act to stimulate the development of natural resources for the uses of all humanity.

So it is that America has become the cornucopia of the world!

For generations the harnessing of Nature's giants was accomplished only by laborious effort. But as American inventiveness expressed itself in better ways to "subdue the earth" the utilization of natural resources was complete.

No single development has contributed more than the plentiful production of durable, reliable *steel pipe*. Pipe to make the great resource of pure water the available servant of the people, pipe to distribute natural gas, to carry compressed air to quarry hammers, to expel mine water, for use in extracting valuable minerals . . . pipe for a thousand-and-one jobs that multiply and accelerate the utili-

zation of our natural resources.

Just as in other phases of modern American life, the development of natural resources has paralleled the development of steel pipe so that it becomes a truism to say *steel pipe makes it possible!*

The interesting story of "Pipe in American Life" will be sent upon request.

*Committee on
Steel Pipe Research
OF
AMERICAN IRON AND
STEEL INSTITUTE*

350 FIFTH AVENUE, NEW YORK 1, N.Y.

STEEL PIPE MAKES IT POSSIBLE!



... better living through pipes of steel for plumbing and heating purposes.

Windowalls . . .

AN ANDERSEN STUDY IN COMFORT



Time was when an architect would put his tongue in his cheek if he detailed a window seat like this one. For it was bound to be a drafty proposition at best.

But with Andersen WINDOWWALLS, the windows that function as a wall—weather-tight and secure against infiltration of cold air—the window seat becomes a cozy, inviting spot in the home.

This WINDOWWALL, in a New York home, is made by a mullion installation of Andersen Complete Wood Horizontal Gliding Window Units. The WINDOWWALL is completely weatherstripped, equipped with double glazing panels, and screen.

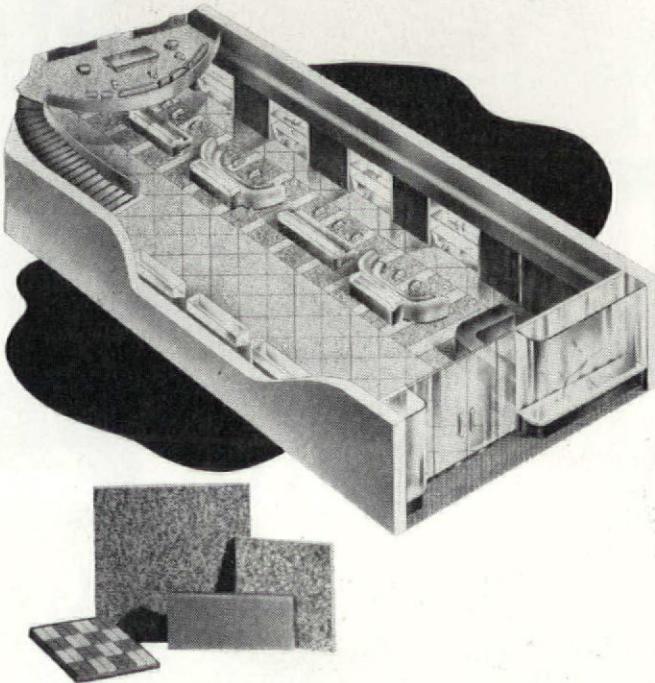
For complete details, consult Sweet's Catalog, or write directly to Andersen.

Andersen Corporation • BAYPORT • MINNESOTA

COMPLETE WOOD WINDOW UNITS • CASEMENT • HORIZONTAL GLIDING • DOUBLE HUNG AND BASEMENT

Behind the scenes with FORUM contributors

Safety in Walking..



An important feature in a shoe store of Distinction **NORTON non-slip ALUNDUM FLOORS**

Safety in walking is an important feature in any building where it is desirable to have a wear-resistant surface that is permanently non-slip even when wet. Non-slip flooring is a "natural" for a shoe store. The shoe store illustrated above has been designed to have ALUNDUM aggregate mixed with marble to make the terrazzo flooring in the entry way, on the main floor and on the stairs and mezzanine safe from slipping hazards. Combine beauty with safety and add years of wear-resistant service by using Norton non-slip ALUNDUM floor products: aggregate, stair tile, ceramic mosaic tile. For free color samples and our latest catalog write to:

NORTON COMPANY
WORCESTER 6, MASS.

ALUNDUM—Registered trade-mark for Norton Company's aluminum oxide abrasive.

NORTON non-slip ALUNDUM FLOORS

See our catalog in Sweet's.



GARDNER DAILEY, 51-year-old San Francisco architect, has become a nationally famous master of the uneven site with his hill-hugging, handsomely executed California homes (p. 77). Less publicized is his recent experimentation with prefabrication which he believes to be the housing answer for middle and lower income groups. He still finds time for such lavish projects as the Royal Hawaiian Hotel, which has him currently island-hopping to Honolulu.



ELIOT F. NOYES, a Boston, Phillips Academy and Harvard product, took time to excavate the ruins of Persepolis before completing his M.A. in architecture. After graduation in 1938, he went from the office of Gropius and Breuer to a Wheelwright Fellowship, the Museum of Modern Art, the Army Air Corps and Norman Bel Geddes' office, where he is now a design director. The house in Dover, Mass. (p. 80) was completed during his brief Museum period.



WILLIAM F. DEKNATEL, born at Hull House, Chicago, topped four architectural years at Princeton with seven at France's Ecole des Beaux Arts, plus an interlude as a charter fellow at Taliesin and study with Andre Lurcat in Paris. His most famous house is that of Walter J. Kohler, Jr. in Wisconsin (FORUM, July '39). Three-and-a-half years' military service ended a year ago with his return to house designing in and around the windy city (one of his latest, p. 84).



RAYMOND LOEWY, founder of the industrial design firm bearing his name, came to this country from France in 1919. His spectacular career as face-lifter of ships and Eversharp, locomotives and toothpaste tubes grew out of the strange combination of training as an engineer and work as a fashion illustrator. His designs for nearly \$900 million worth of manufacturer products include also jobs like the Matson Lines ticket office (p. 87).



NATHANIEL OWINGS, chief designer for Skidmore, Owings & Merrill's TWA ticket office (p. 90), became a partner ten years ago, has since been involved with such projects as atomic Oak Ridge, Toledo's neuro-psychiatric veteran's hospital and currently, the U. N. Manhattan headquarters. He took academic training at Cornell University, apprenticeship with York & Sawyer, and a year of research for a book in Japan, China, India and Egypt.



EATON W. TARBELL, born a down-Easter, still lives in his native Maine. He comes to the architectural profession via Deerfield Academy, Bowdoin College and the Harvard School of Design. After sojourns with Stone & Webster in Boston and as Assistant Superintendent of Army Housing, Tarbell formed his own firm in 1944. To date, he has completed 86 jobs, or parts thereof, from office buildings to prison camps, with side excursions into house design (p. 94).



HENRY J. KAISER, can-do boy of war and peace, and Fritz Burns, ball-of-fire homebuilder, have teamed up for Kaiser Community Homes, (p. 105). Burns began his career distributing circulars for a Minneapolis real estate firm. Kaiser printed snapshots of visitors at Lake Placid, later switched to highway construction. Both men have since put the Horatio Alger legend to shame—Burns with scores of developments, Kaiser with 819 Liberty ships.



H. E. LANDSBERG, who "designs climate" (p. 114), was born and educated in Germany, worked as assistant director of Taunus Observatory, Frankfurt, came to America in the thirties. Here he has taught meteorology and geophysics at Pennsylvania State College and the University of Chicago. During the war he was Operations Analyst for the 20th Air Force; since demobilization has been chief of U. S. Weather Bureau's industrial climatology.



Soon after Edison Electrified the World

Otis Electrified the Elevator

Otis installed the world's first successful electric elevator in 1889 . . . soon after electricity became commercially available. • Hydraulic elevators, currently in use at that time, required bulky, heavy equipment and were expensive to install and operate. • The electric elevator, compact and more simple to install, made elevator service economically practical for buildings of every size. • This important step in the development and improvement of elevator service typifies the basic pioneering which has maintained Otis leadership for nearly a century.



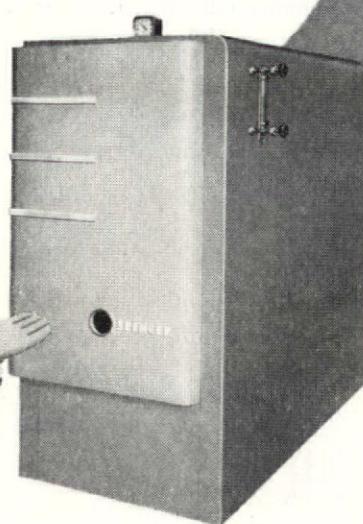
For the latest in vertical transportation call Otis today.

A MODERN BOILER FOR MODERN LIVING

Today's building plans are filled with ideas of modern design and construction. A deserving compliment to modern engineering is a precision-built Spencer Heating Unit.

Whatever you may require in heating, there's a Spencer steel boiler to do your job efficiently. Spencer offers not one, but all types as shown in the catalog of our complete line. Write or wire for a copy now.

Jacketed type "C" boiler for medium-size homes, apartment houses, garages, etc. Eight available sizes—from 700 to 3,000 sq. ft.—Other Spencer units with capacities up to 42,500 sq. ft.



SPENCER HEATER

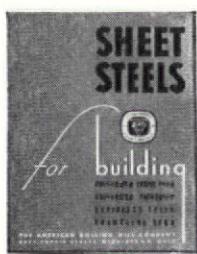
Division—The Aviation Corporation,
Dept. AA-3, Williamsport, Pa.

More and more, designers of theaters, store fronts and other buildings are recognizing the importance of a colorful, alluring finish. There is no better way to get it than with clean, bright porcelain enamel. This versatile finish lends any structure an inviting beauty that draws customers.

It's time now to consider the possibilities of this distinctive facing material. As soon as building materials are more generally available, you'll want to take full advantage of its rich, fresh colors and interesting variety of surface textures. Its compelling beauty can often be enhanced with striking contrasts of ARMCO Stainless Steel trim.

Porcelain enamel stays bright and attractive through the most severe atmospheric conditions. It is unaffected by winter cold or summer heat. It will not corrode or fade. And simple washing instantly restores its original sparkle.

Many leading manufacturers and job enamelters use ARMCO Enameling Iron for its superior porcelain enameling properties. It was the first special enameling iron and today is the most widely preferred for exacting work. When you specify it you assure your clients proved basic metal quality. The American Rolling Mill Co., 201 Curtis Street, Middletown, Ohio. Export: The Armco International Corporation.



SEE SWEET'S CATALOG for uses, advantages and specifications of these other Armco special-purpose sheets:

Galvanized ARMCO Ingot Iron

ARMCO Galvanized PAINTGRIP Steel (also available with ARMCO Ingot Iron or Copper Steel base)

ARMCO Stainless Steel

DRAWING PLANS TO DRAW CUSTOMERS



The glistening, colorful appeal of the Dearborn Theater, Dearborn, Mich., is achieved with structural porcelain enamel. The name of the theater, in porcelain enamel, is outlined with Neon lights. The architect was Charles N. Agree.



THE AMERICAN ROLLING MILL COMPANY

• SPECIAL-PURPOSE SHEET STEELS

• STAINLESS STEEL SHEETS, STRIP, BARS AND WIRE

ANNOUNCEMENTS

CEMENT has an important job in stucco—more than just holding aggregate together. That job is to reproduce the architect's exact desires in color and texture—easily, lastingly, and at low cost.

Pure non-staining Medusa White—the original true white portland cement—fulfills these requirements. It gives you almost unlimited flexibility of design, color and texture.

Mixed with mineral oxide or special aggregates, Medusa White makes stucco in a great variety of surface treatments and colors. And, because it is a true portland cement, Medusa White meets the requirements of ordinary gray cements (A.S.T.M.)

Medusa Stucco, when made with Medusa Waterproofed White Portland Cement, offers high resistance to moisture penetration and has unusual non-staining properties. Water-borne dirt is washed off instead of being absorbed. This means stucco has longer lasting beauty—is free of stains and discolorations.

For specifications, textures and complete information, write for "A Guide To Finer Stucco". It helps you plan for beauty.

"FIFTY-FIVE YEARS OF CONCRETE PROGRESS"



MEDUSA PORTLAND CEMENT COMPANY

1013 Midland Building • Dept. "A" • Cleveland 15, Ohio

Gentlemen: Please send me a copy of the book "A Guide To Finer Stucco".

Name _____

Address _____

City _____ State _____

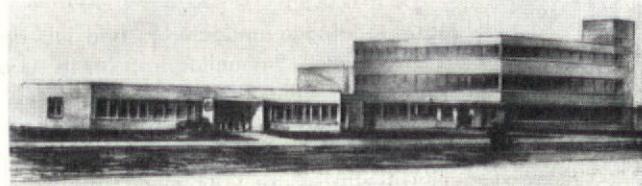
Also made by Medusa Products Co. of Canada, Ltd., Paris, Ontario

CHARLES ABRAMS and HENRY CHURCHILL, well-known housing experts, are conducting a series of 15 lectures on "Planning for our Communities" to be held on Tuesday evenings at the New School of Social Research, New York City. A number of prominent city planners will take part in the series, including Homer Hoyt, Leslie Williams, Hugh Pomeroy, Thomas Creighton, Jose Sert and Robert Mitchell.

A PRACTICAL COURSE FOR HOME BUILDERS, a series of 10 lectures to be given at Columbia University, New York, by Frederick Woodbridge and Harold Sleeper [on Thursday evenings beginning February 6] will cover the basic financial, real estate and technical problems which face anyone building or planning to build his own home today.

THE HOMEBUILDERS COUNCIL OF NEW YORK, NEW JERSEY AND CONNECTICUT has scheduled a Metropolitan Home Show to be held in the Grand Central Palace, New York City, during the week of April 19th.

BUILDING PREVIEWS

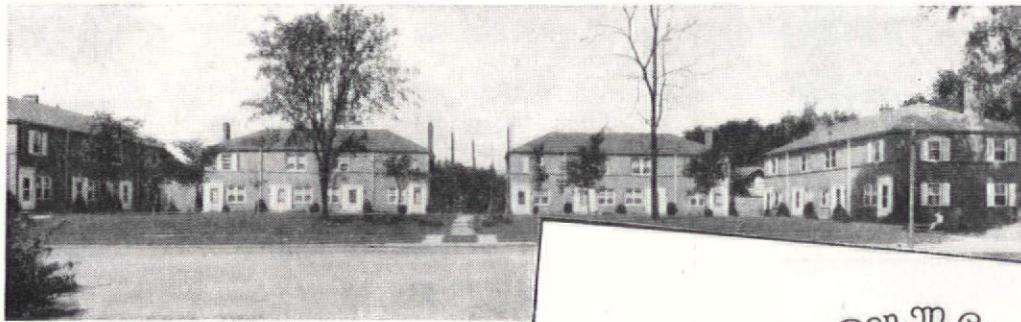


ARMSTRONG CORK COMPANY announces the construction of 3 new plants. The Asphalt Tile Plant at Kankakee, Ill. (above) is expected to go into operation this spring. Of reinforced concrete and structural steel base with brick facing, this factory building will be 380 ft. x 125 ft. A separate one-story office building will stand in front of the plant. At Jackson, Miss., a second Asphalt Tile Plant will be located; while a \$4,400,000 Fiberboard plant is now under construction at Macon, Ga.

AN INTERNATIONAL TRADE MART for New Orleans, La., providing sales and exhibition space for 200 firms will be housed in the Baldwin Bldg. The structure, after a million dollar renovation job, will be completely air-conditioned, and its white concrete exterior will feature glass brick strips instead of windows. Present plans indicate that the building will be ready for occupancy within a year.



TWO MORE VETERANS HOSPITAL have been approved by Army Engineers and the Veterans Administration. The 250-bed general medical and surgical hospital, sketched above, will be built at Fresno, Calif. Extreme hot weather in the vicinity will cause this to be the only completely air-conditioned hospital in the Veteran program. Need for a minimum run of air conditioning ducts stressed compactness and simplicity of overall shape. "Double corridor" design of the wings places serving rooms in the center and leaves all outside room-space for patients. It also (Continued on page 56)



Part of the attractive, four-family apartment project built in Columbus, Ohio, by CAPITOL PROPERTIES, INC.

Ohio builder chooses KIMSUL* Insulation above all others for all types of construction



Installing light, flexible KIMSUL* in a CAPITOL PROPERTIES, INC. home. It is easy—just cut KIMSUL to desired length, expand it, and staple to ceiling joists.

Like Don M. Casto, important builders, architects, and contractors everywhere are specifying KIMSUL Insulation. With a "k" factor of 0.27, KIMSUL is one of the most efficient insulations ever developed for insuring home comfort. Designed on the scientific principle of many-layer construction, KIMSUL automatically provides uniform insulation coverage. Prefabricated and pre-stitched, it's easy to install. It's pleasant to handle because it's so clean—no dust, no

irritating after-effects to skin of workmen. And KIMSUL is resistant to fire, moisture, fungus; it is termite-proof . . . won't sag, sift, or settle.

These qualities—and many more—account for the outstanding performance of KIMSUL in all types of construction. They are the reasons why it is wise for you to include KIMSUL in any building specification. For complete information, write Kimberly-Clark Corporation, KIMSUL DIVISION, Neenah, Wis.

KIMSUL
REG. U. S. & CAN. PAT. OFF.
INSULATION



We are producing all the KIMSUL Insulation we possibly can, but due to the great demand, distributors may have some difficulty in supplying KIMSUL dealers as promptly as usual.

*KIMSUL (trademark) means
Kimberly-Clark Insulation

ANNOUNCEMENTS

Strikingly Smart

FOR ANY BATHROOM PLAN OR COLOR SCHEME!

Specify
LIFETIME
CHROME
by
Gerity

Gerity mirror-bright fine chrome accessories for baths and kitchens are smart with any color scheme. Extremely durable—won't break, crack, peel, check or tarnish. Write for catalog. Gerity-Michigan Die Casting Co., Adrian, Mich.



cuts distance between serving and sick rooms. The top floor of this 7-story structural steel, concrete shell hospital will house a psychiatric unit. Masten & Hurd, Huber & Knipke, San Francisco, were architect-engineers on the project.

Preliminary plans for a 450-bed general Medical and Surgical hospital to be erected at Shreveport, La. have been approved. Neild & Somdal, Shreveport architect-engineers, are at work on detailed drawings.

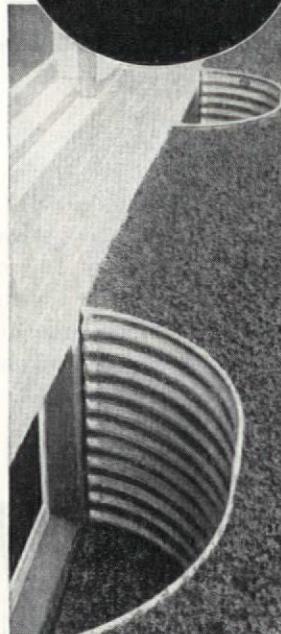


OHIO STATE UNIVERSITY announces plans for a 600-bed hospital and a 5-story dentistry building to form the central units in its new medical health center. This \$5,000,000 project will include a mental receiving hospital and widely expanded facilities for the university's College of Medicine and for state health and welfare agencies. Site plans for the center were designed by Skidmore, Owings & Merrill, architects, with Edwin Salmon as hospital consultant.

PRINCETON UNIVERSITY'S \$4,000,000 LIBRARY, the Harvey Firestone Memorial, is scheduled for completion in June 1948. Designed Gothicly to harmonize with campus tradition, the building will have a book capacity of 1,800,000 books, and seating accommodations for about 1,875 students. In interior plan, it will be an "open stack" library (Continued on page 58)



THE ORIGINAL,
SELF-FLANGE, ONE-PIECE
CORRUGATED STEEL WALL
HAND-DIP GALVANIZED
AFTER IT IS FORMED



Builders! Attention!

Put this superior product into your plans for modern homes and structures of all kinds. Weigh its many sturdy advantages over other methods of manufacture:

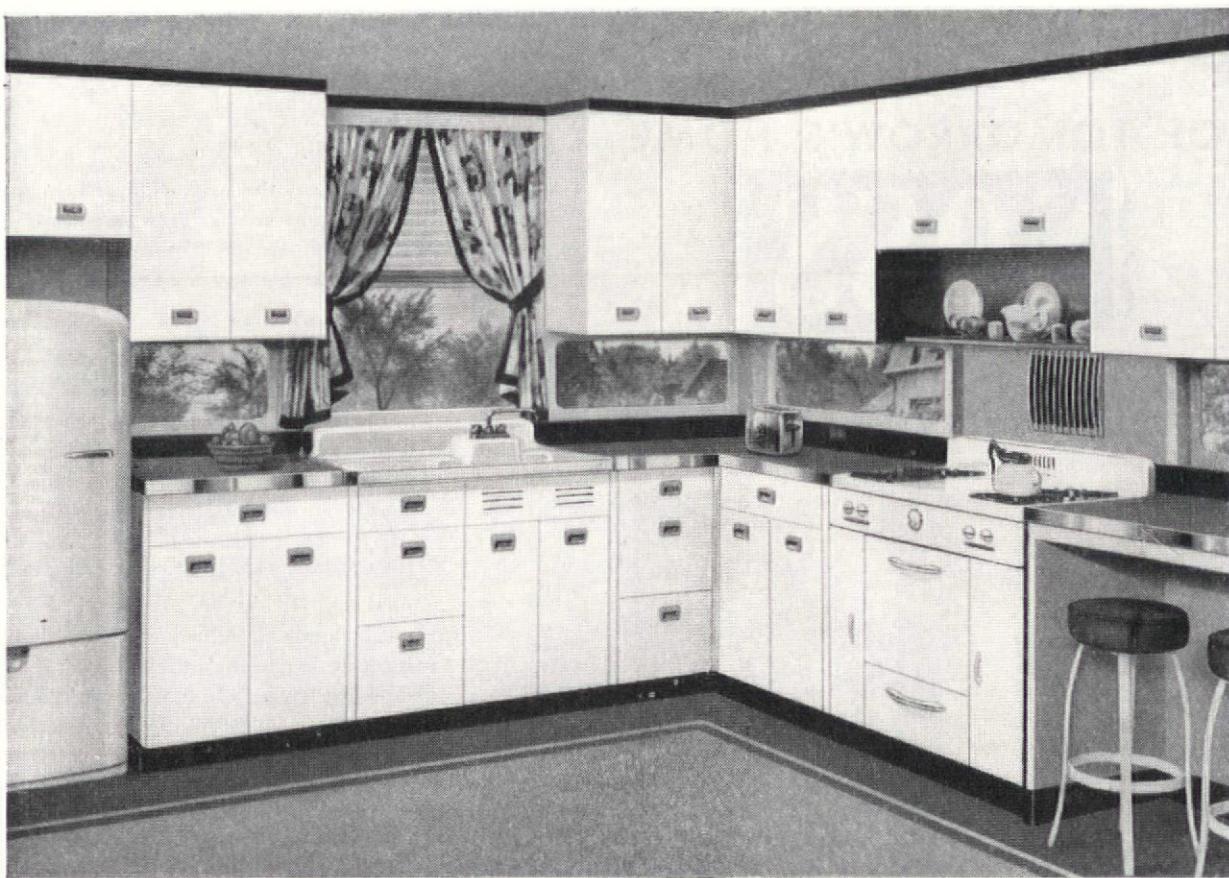
This is the original *LUX-RIGHT Areawall, time-tested and approved by Architects, Builders and Homeowners throughout the land.

Each unit is heavily galvanized by hand-dipping in molten zinc AFTER FORMING. This permanently protects all edges from rust. No painting needed. Install "as is". Full top bead gives great rigidity; important safety factor too.

Quick setting means saving in time-labor costs. Masonry nail and screw holes pre-punched.

Folder Free. See dealer or write.
See Sweet's Arch. & Bldrs. Editions
*TM Reg. U.S. Pat. Off.

SAINT PAUL CORRUGATING CO.
Manufacturers of Sheet Metal Products since 1885
South End Wabasha Bridge AF2 Saint Paul 1, Minn.



Second of a Series: The Crane Stewardess Kitchen

CRANE PLUMBING and HEATING ... for the homes you are building

Home buyers exclaim with delight when the plumbing in their new house is Crane. The modern beauty, the efficiency and high quality of Crane equipment add sales appeal and increased value in the eyes of its future owners.

The 1947 line of Crane plumbing includes kitchen sinks, bathroom groups, laundry tubs in a size and style to suit every building plan—a price to meet every budget. This line is the finest Crane has ever produced, and every item in it is designed to suit today's taste.

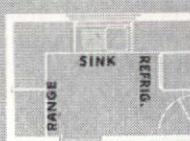
In heating, too, Crane offers the builder a complete range of boilers and furnaces to meet every fuel requirement, coal or coke—oil or gas. This line also includes radiators and convectors, controls and water specialties, pipe, valves and fittings—everything for every heating system.

Your Crane Branch will discuss your needs and give you an approximate delivery date. They also have available illustrations of the Crane 1947 line photographed in color in actual room settings. Check your requirements with them.



Approx. Size: 13' 11" x 10' 3"

Shown at the left is a floor plan of the kitchen illustrated above. The Crane Stewardess Sink can, of course, be used in smaller kitchens as suggested in the two layouts at the right.



Approx. Size:

11' 0" x 7' 4"



Approx. Size:

10' 10" x 6' 11"

CRANE

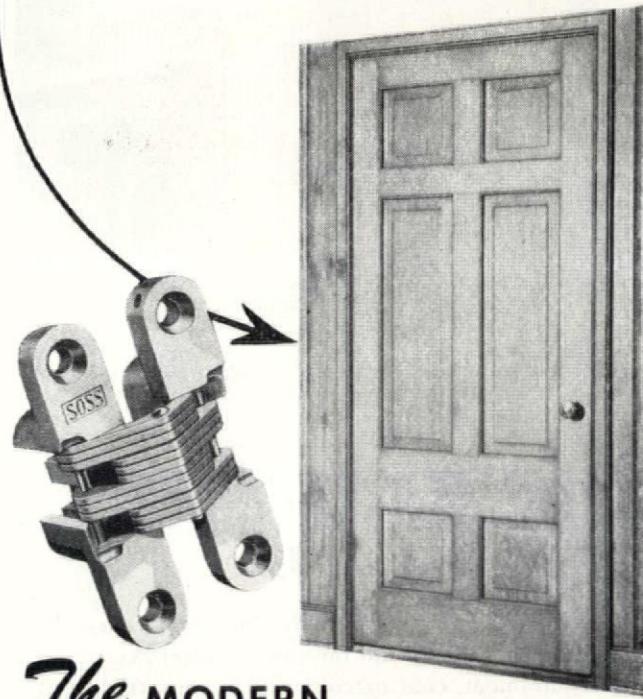
NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5
VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

ANNOUNCEMENTS

The Hallmark
OF TOMORROW'S HOME

{SOSS}
INVISIBLE HINGES



*The MODERN ...
 DIFFERENT "out of sight" HINGE*

"This house has personality! There is something different and distinctive about it!" Many times people make just such remarks when looking at a home equipped with SOSS INVISIBLE HINGES—for these hinges when installed are completely concealed.

It is obvious why SOSS hinges impart a distinguished personality to any home. For one thing they permit the use of flush surfaces for doors, panels and cupboards which are a feature of modern streamlined design. Furthermore they eliminate surfaces marred by unsightly protruding butts. Your clients will commend you for suggesting these modern hinges.

Write for SOSS "Blue-Print Catalog" giving full details of the many applications of this modern hinge. Free on request.

SOSS MANUFACTURING COMPANY
 21767 HOOVER ROAD • DETROIT 13, MICHIGAN

SEE OUR CATALOG IN SWEET'S

with no barriers between books and users. Robert O'Connor and Walter Kilham Jr. of New York are architects; Turner Construction Co., builders.

AWARD

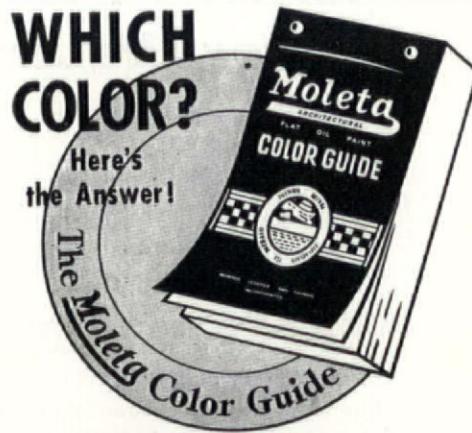
HOWARD GREENLEY, architect, has been awarded the President's Medal by the Architectural League of New York (the 11th time this award has been made in 67 years). The medal was presented on the 25th Anniversary of Mr. Greenley's election as President of the League.

COMPETITIONS

PRIZES OF \$1,000, \$350 and \$250 each are offered in an architectural contest for a firesafe, masonry home (open only to architects and designers living or practicing in Connecticut). Dextone Co., Wm. M. Hotchkiss Co. and Plasticrete Co., all of Connecticut, have sponsored the competition. Further information may be obtained from Harold Hauf, AIA, Professional Adviser for the competition, at the Department of Architecture, Weir Hall, Yale University, New Haven 7, Conn.

TO INTEREST U. S. ARCHITECTURAL STUDENTS in producing good church design, the Interdenominational Bureau of Architecture is offering prizes of \$100, \$75, \$50, \$35 and several of \$25 each for the best church plans submitted by students before December 20, 1947. The designs will be displayed at the North American Conference on Church Architecture in New York next January. Copies of the program may be obtained from Elbert Conover, Interdenominational Bureau of Architecture, 297 Fourth Ave., New York 10, N. Y.

MEMBERS OF THE REAL ESTATE BOARD OF BROOKLYN, N. Y. are eligible for a \$1,000 prize to be given for the most ingenious real estate transaction negotiated (Continued on page 60)



A "find" for the ARCHITECT!

When your clients ask "What color will be best?" you'll have a quick answer in the handsome Moletag COLOR GUIDE.

150 beautiful colors are displayed . . . Blues, Greens, Yellows, Grays, Browns . . . every tint from the palest to the darkest!

Formulas are given on the reverse of each color sheet (9" x 15") to show how the shade can be quickly made. Price, \$5.00 . . . delivered anywhere in the U.S.A. Write for your copy.

MONROE, LEDERER & TAUSSIG, INC.
 606 N. AMERICAN STREET
 PHILA. 23, PA.

Moletag
 ARCHITECTURAL
 FLAT
 OIL PAINT
 THE TRULY WASHABLE FLAT PAINT



A house, too, can be “painted into a corner!”

- No architect or builder needs to be told that, of all home-heating fuels, Bituminous Coal is the most economical and most dependable.

So, even when a client of yours *insists* on some other fuel for his new home, it's wise to give him the chance to change his mind at some time in the future—and turn to coal!

Otherwise, he's apt to find his house "painted into a corner" when stoker developments, local coal services and cost differentials dictate the use of coal.

Just be sure that the house plan provides: (1) *A chimney with sufficient flue capacity to burn coal efficiently;* (2) *Sufficient space adjacent to the heating unit for eventual coal storage and stoker installation.*

Such sensible precautions involve but trifling cost—and they may add greatly to the future value of a house.

Coal supplies uniform, *steady* warmth throughout every portion of each room. For there's always a fire in the furnace—no "pop on and pop off" periods that permit accumulated heat to rise to the ceilings and leave floor areas dangerously cold. That, plus its low cost, is why more than 4 out of every 7 homes in the United States now heat with coal!



As you undoubtedly know, the modern research facilities of the Bituminous Coal industry are hard at work not only to make coal a still better fuel, but also to devise new, low-cost *automatic* equipment that will make coal-heating even cleaner, more comfortable, more convenient and more economical. This makes it all the more important that every new home built today be planned to permit the eventual burning of coal—no matter what fuel may initially be selected.

BITUMINOUS COAL

BITUMINOUS COAL INSTITUTE
Washington, D. C.

Affiliate of NATIONAL COAL ASSOCIATION

ANNOUNCEMENTS

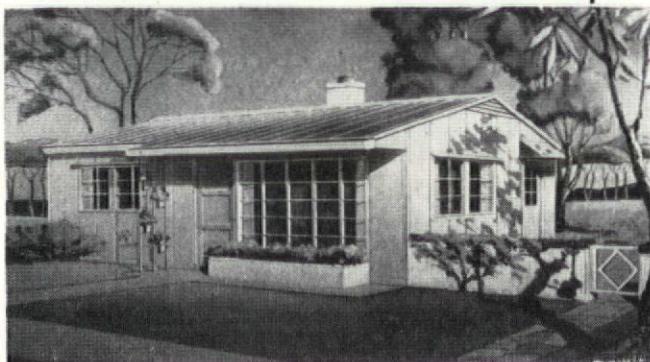
When TIME and BUDGETS
Are Determining Factors



PERMANENT PREFABRICATED METAL HOMES

THESE ARE NOT makeshift dwellings for temporary housing . . . they are PERMANENT, PRACTICAL, ENDURING . . . PREFABRICATED to save time in erection . . . to save costs because of the advantages of MASS PRODUCTION.

STEELCRAFT IS A PIONEER IN METAL HOME PREFABRICATION . . . YEARS OF RESEARCH, TECHNICAL IMPROVEMENT AND DEVELOPMENT ENABLE STEELCRAFT TO OFFER THESE HOMES AS A MODERN INTERPRETATION OF TODAY'S HOUSING NEEDS.



THE ROSELAWN model combines functional design with the most advanced methods of permanent metal prefabrication.

WRITE FOR FULL DETAILS

Desirable territories still available for qualified dealers.

The STEELCRAFT Manufacturing Co.
"Pioneers in Metal Prefabrication"
ROSSMOYNE (Cincinnati) OHIO

in that county during 1947. The Inter-County Title Guaranty and Mortgage Co. has donated the award.

SCHOLARSHIPS

THE UNIVERSITY OF PENNSYLVANIA is offering these Architectural Fellowships and Scholarships for 1947-8:

Two \$1,000 Chandler Fellowships for graduates of approved architectural schools not over 27 years of age on July 1;

Two University Graduate tuition scholarships;

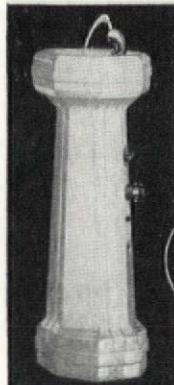
A \$250 Albert Kahn undergraduate scholarship in Industrial Architecture towards tuition of a student who has had 4 years training in an approved architectural school. Applications should be made by letter to the Dean of the School of Fine Arts before May 17 with 3 letters of recommendation from practicing architects or teachers of architecture;

An Albert Kahn Scholarship in Architecture is also being offered to provide a maximum of \$1,100 towards graduate study. Applications for this scholarship should be made to Dr. Arnold Henry, Dean of Student Affairs at the University.

HARVARD UNIVERSITY DEPARTMENT OF REGIONAL PLANNING offers 2 or 3 fellowships for advanced study in city or regional planning, the stipends not to exceed \$1,500 each. Applications (to be made before April 1) should list training and experience as well as outline the program of study or research desired. Further information on these fellowships as well as on a number of tuition scholarships may be obtained from the Chairman of the Department of Regional Planning, Hunt Hall, Harvard University, Cambridge 38, Mass.

PENNSYLVANIA STATE COLLEGE SCHOOL OF ENGINEERING announces 10 graduate fellowships stipends ranging from \$750 to \$1,800 in the fields of

(Continued on page 62)



In office buildings in major cities throughout the country, in the nation's important hospitals, in public and parochial schools from coast to coast . . . and in thousands of industrial plants, too . . . you'll find Halsey Taylor Drinking Fountains the logical installations.

Patented health-promoting, trouble-proof features make them easily the most hygienic fountains you can specify! Get our latest catalog.

THE HALSEY W. TAYLOR CO.
WARREN, O.



Halsey-Taylor
DRINKING FOUNTAINS

What keeps the lobster laughing can keep your clients happy, too!



The Lobster laughs in crustacean glee at the dangers of life in the briny deep. Nature provided him not only with fierce, offensive claws but also with *armored protection*.

The Barrett Specification* Roof, with its armored wearing surface of gravel or slag, provides comparable protection for building structures. It's so tough and long-wearing it can be bonded against repairs and maintenance expense for as long as 20 years.

Over 90 years of successful roofing experience has demonstrated the sound value of the gravel or slag wearing surface of a Barrett Specification Roof:



1. It holds in place the heavy-poured (not mopped) top coat of coal-tar pitch—providing a doubly thick waterproof covering.



2. It provides protection against the sun's actinic rays which otherwise dry out the valuable oils in roofing bitumens.



3. It protects the roof against mechanical damage, hail and wind, wear and tear.



4. It interposes a surface of fireproof rock between the building and flying embers—makes a roof that carries Fire Underwriters' Class A Rating.

Built up of alternate layers of coal-tar pitch and felt, topped by a thick *pouring* of pitch to anchor the gravel or slag wearing surface, it is the toughest, longest-lasting built-up roof made. It is waterproof, fire-safe, sun-resistant, and armored against mechanical damage. Provide the best for the buildings you design. Include Barrett Specification Roofs in your building specifications. The Atomic Bomb Plant at Oak Ridge, Tenn., the Chrysler and R.C.A. buildings in New York, the Field Building in Chicago and many other famous American buildings—all Barrett-roofed—will confirm the soundness of your choice.

THE BARRETT DIVISION

Allied Chemical & Dye Corporation
40 Rector Street, New York 6, N. Y.

2800 So. Sacramento Ave. Birmingham
Chicago 23, Ill. Alabama

In Canada: The Barrett Company, Ltd.,
5551 St. Hubert Street, Montreal, Que.

*Reg. U. S. Pat. Off.



ANNOUNCEMENTS

Another Advantage of
CHROMEDGE*

Matched Sets in metal trims for all floor and wall materials



*T.M. Reg.
U.S. Pat. Off.

* CHROM-
EDGE extruded
aluminum alloy
and stainless
steel trims are
made solely by
The B & T Metals
Company.

CHROMEDGE Metal Trims offer both *extruded aluminum alloy* and *stainless steel* moldings in a complete range of matched sets. Sizes for all materials, from lightweight enameled coverings to wall-board and plywood thicknesses. The matched set shown above is for use with $\frac{1}{8}$ -inch materials. Extruded sections may be had in bright or satin finish, or in the rich, velvet-like luster of B & T's remarkably durable Chromalite finish—which *will not rub off black*.

Distributed through authorized wholesalers only.

The **B & T** Metals Company
Columbus 16, Ohio

aeronautical, electrical and mechanical engineering open to graduates in engineering or physics. The School is also offering 10 departmental graduate assistantships (\$1,000 each) and a number of full-time research assistantships. Further information may be obtained from H. P. Hammond, Dean, School of Engineering, State College, Pa.

THE JOHN STEWARDSON MEMORIAL SCHOLARSHIP IN ARCHITECTURE, open to U. S. citizens between the ages of 22 and 32 who have spent the past year—or a year previous to military service—studying or practicing architecture in Pennsylvania, offers \$1,000 to be spent on the study of architecture here or abroad. Application blanks are obtained from Morton Keast, Secretary, 1108 Commonwealth Building, 1201 Chestnut St., Philadelphia 7, Pa.

THE UNIVERSITY OF MICHIGAN COLLEGE OF ARCHITECTURE AND DESIGN announces that the George G. Booth Travelling Fellowship in Architecture will be offered again this year. The competition in design will be conducted during the two weeks beginning April 5, 1947. Only graduates of the school who have not reached their thirtieth birthday on that date are eligible. Those interested in entering the competition should write to the College of Architecture and Design University of Michigan, Ann Arbor for further details.

APPOINTMENTS

ARTHUR SCHWARZ, JR. is now a member of Mauran, Russell, Crowell & Mullgardt, architects, St. Louis 1, Mo.

THE AMERICAN DESIGNERS' INSTITUTE, New York, announces 1947 national officers: Alexander Kostellow, President; Ruth Gerth and Stewart Pike, Vice-Presidents; Lionel Algoren, Treasurer; and Ann Franke, Secretary. (*Continued on page 64*)

As MASTIPAVE PRODUCTION INCREASES MORE FLOOR PROBLEMS will be solved!

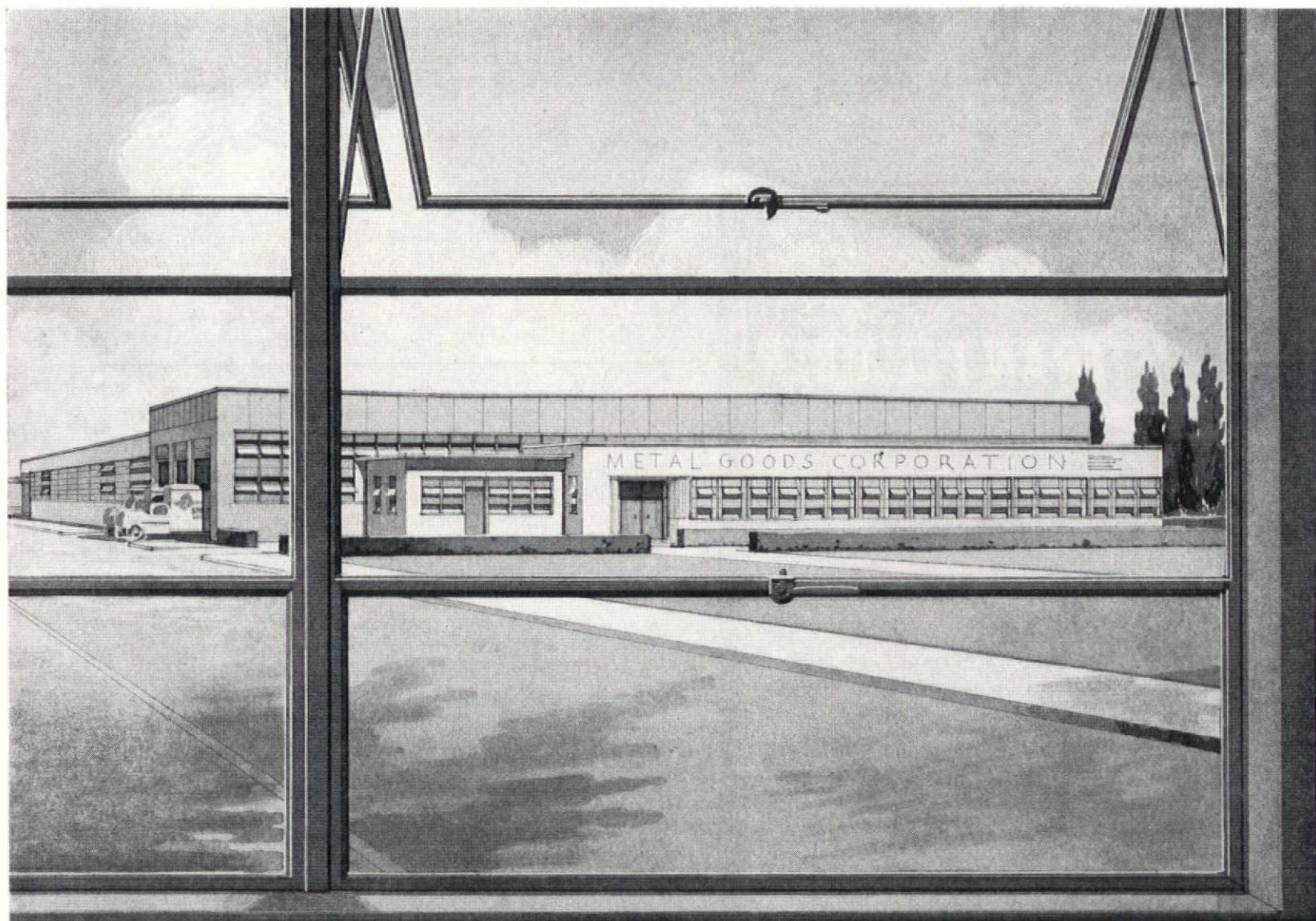
"So they Mastipaved the floor" is more than a sales slogan. It is a fact proved by 23 years of MASTIPAVE success in solving floor problems. Amazingly rugged and adaptable to most commercial, industrial and institutional floors, this low-cost, long-life floor covering is well worth waiting for!

PABCO
MASTIPAVE
The Low Cost, Long Life
FLOOR COVERING

Also Grip-Tread
MASTIPAVE+Non-Slip
Wet or Dry

23-Year Record
of Amazing
RUGGEDNESS!

THE PARAFFINE COMPANIES • INC.
NEW YORK 16 • CHICAGO 54 • SAN FRANCISCO 19
Makers, also, of Pabco Linoleums, Grip-Dek and Sani-Grip Floor
Coverings; Pabco Paint, Roofing and Building Materials



Factory-Office Building of the Metal Goods Corporation, Dallas, Texas. Factory equipped with Lupton Pivoted Windows. Office equipped with Lupton Architectural Projected Windows. Architect: Frank Cann. Engineers and Contractors: Frazier-Davis, St. Louis, Mo.

Streamlined industrial production depends on many things . . . proper daylighting; healthful, well-ventilated atmosphere; pleasant working surroundings. At the Metal Goods Corporation, Lupton Metal Windows promote efficiency by supplying these ideal conditions. In the factory section, Lupton Pivoted Windows, mechanically operated, provide a constant, well regulated, supply of fresh air. Modern appearance is secured for the office section with Lupton Architectural Projected Windows. There is a Lupton Metal Window for every type of building. Write for the new 1947 Catalog or see our Catalog in Sweet's.

MICHAEL FLYNN MANUFACTURING CO.
700 East Godfrey Avenue, Philadelphia 24, Penna.
Member of the Metal Window Institute

LUPTON METAL WINDOWS

ANNOUNCEMENTS

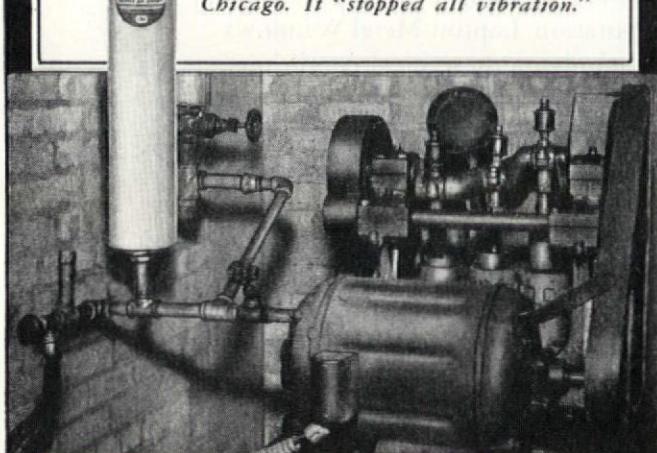
"Does a Fine Job"
—SAYS
VETERAN PLUMBER

He's speaking about the Wade Sealed Air Chamber. But let's hear directly from Chas. E. Grawne, prominent Chicago plumbing contractor . . . "We installed a $\frac{3}{4}$ " water line to a high pressure pump used for truck washing operations at the Midwest Transfer Company, Chicago. The 150 lbs. discharge pressure at the spray nozzle backed up in fluctuating pressure surges past the pump into the city water line. This created a dangerous vibration of the entire piping system—so much so that the pipe was torn loose from its hangers. We installed your No. 134 Sealed Air Chamber on this water line and it stopped all vibration. THIS WADE SEALED AIR CHAMBER REALLY DOES A FINE JOB."

More and more plumbers, engineers and architects are learning how the Wade Sealed Air Chamber effectively solves water hammer problems. They cushion the shock created by high surge pressures to prevent stretching and straining of pipes, valves and fittings.

Take a tip from Mr. Grawne and learn more about this modern effective answer to destructive water hammer. Send today for our new Sealed Air Chamber booklet which includes Selector Tables to determine the correct size Air Chamber for each job.

Photo shows the Wade No. 134 Sealed Air Chamber, installed on a $\frac{3}{4}$ " pipe at the Midwest Transfer Company, Chicago. It "stopped all vibration."



WADE DRAINS

Wade, makers of the HydraFilter grease interceptor and the Sealed Air Chamber manufactures a complete line of floor and shower drains, roof drains, backwater valves and swimming pool equipment. Consult your nearest Wade representative or write direct to us for further information.



WADE
MANUFACTURING COMPANY

E. W. SMITH of the Philip Carey Manufacturing Co. was reelected chairman of the Asphalt Roofing Industry Bureau.

D. PARRY FORST, president of Robertson Manufacturing Co., has been elected 1947 Chairman of the Tile Council of America.

L. R. BOULWARE has been named General Manager of a new Affiliated Manufacturing Companies Department of General Electric [including Carboloy Co., Inc.; General Electric X-Ray Corp.; Hotpoint, Inc.; Lock Insulator Corp.; Monowatt Electric Corp.; Telechron, Inc.; and Trumbull Electric Manufacturing Co.].

NEW OFFICES

ERIC MENDELSON AIA and ALBERT HILL (both formerly of Mendelsohn, Dinwiddie & Hill) are now associated in practice at 627 Commercial St., San Francisco, Calif. JOHN DINWIDDIE AIA will continue his practice at 233 Sansome St., San Francisco.

ALEXANDER GIRARD offers complete architectural and design services for home, office and industrial fields in his new headquarters at 379 Fisher Road, Grosse Pointe 30, Mich.

ROBERT MURPHY, architect and industrial designer, is established in practice at 672 N. Orange Ave., Orlando, Fla.

R. MARSHALL CHRISTENSEN has opened an architectural office at 925 Madison Ave., New York, N. Y.

ALBERT KIRSCHENBAUM announces the opening of offices at 53 W. Jackson Blvd., Chicago 4, Ill.

KENNETH KASSLER ASSOCIATES, architects (formerly Kassler, Alexander & Bowers) will continue practice at 18 Nassau St., Princeton, N. J. Raymond Bowers will remain in association with the firm on certain projects.

(Continued on page 66)

LOW-COST PROTECTION FOR HEAVY TRAFFIC FLOORS!

COSTS LESS THAN **6c** PER SQUARE FT.

Here's hard-to-beat economy! *Rubberlike*, the modern composition floor runner with rugged corrugations, protects all heavy traffic areas for less than 6c per square foot! Widely used in factories, offices, schools, hotels, cafes, institutions, it quiets footsteps—makes slippery floors safe. Skidproof even when wet. Easy to clean, *Rubberlike* runner needs no special upkeep, can be put down without cementing. Won't curl at edges. Amazingly durable—and doubly desirable because of its "petty-cash" cost! In rolls, 27 in. by 100 ft. or 36 in. by 75 ft. Order from supply house or write for sample. Bird & Son, inc., 161 Washington Street, East Walpole, Mass.

RUBBERLIKE*
PATENTED NON-RUBBER
CONSTRUCTION

Runner



*Reg. U.S. Pat. Off.

BIRD & SON, inc., EAST WALPOLE, MASS.

NEW YORK

SHREVEPORT, LA.

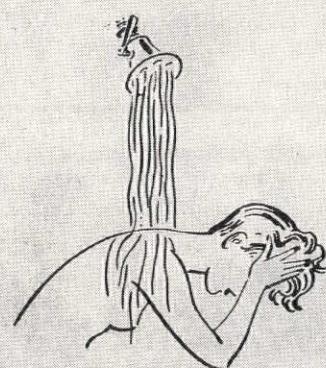
CHICAGO

MORE THAN JUST ANOTHER SHOWER HEAD

It's an Anystream!

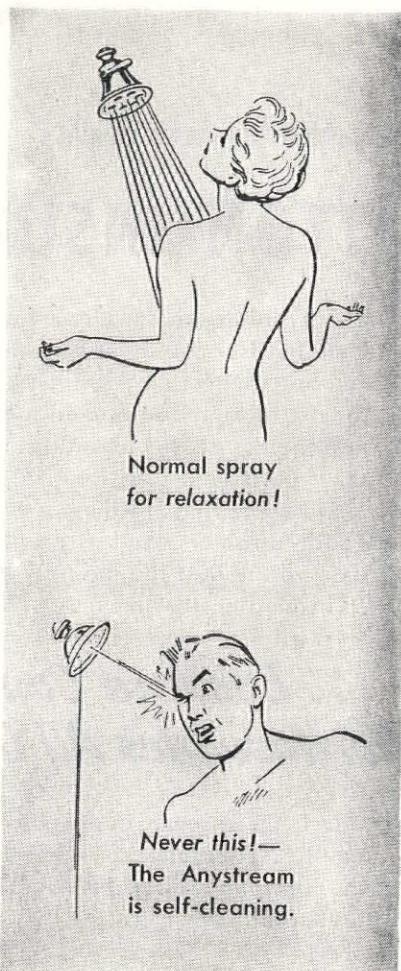


A TURN OF THE LEVER GIVES . . .
Needle spray for stimulation!



Flood spray
for no-splash rinse.

- The Speakman Self-Cleaning Anystream assures you a full-flowing, evenly distributed shower instantly adjustable to any degree of spray you desire.
- Rugged in construction . . . beautifully designed and machined . . . the Anystream is a model of engineering skill. It can be counted on to give long, dependable service.
- Unlike ordinary showerheads, the Anystream is self-cleaning . . . a feature which keeps it from clogging. In the flood position, foreign matter is instantly flushed away.
- The Anystream saves up to 58% on the consumption of hot water . . . welcome news to those who find the supply or cost of hot water a major problem.
- The Anystream is easily installed. No special fittings are required. And when . . . after long service . . . normal wear occurs, repairs can be made quickly and inexpensively.



Normal spray
for relaxation!

Never this!—
The Anystream
is self-cleaning.



The Speakman Self-Cleaning Anystream is distributed nationally through plumbing wholesale supply dealers and plumbing contractors. It can be depended on to rejuvenate any shower bath . . . modernize the newest installation . . . and give long, satisfactory service.

Established 1869
SPEAKMAN
SHOWERS AND FIXTURES
SPEAKMAN COMPANY, WILMINGTON 99, DELAWARE

ANNOUNCEMENTS



Twelve billion dollars is a lot of money. Yet, that is a conservative estimate of the amount that will be spent by Americans for the more than one and a half million new homes to be built during the next three years.

Folks with that much money to spend are good customers. And as good customers, deserve the best the industry has to offer. In insulation, that means Lo-K.

... Because Cotton Out-Insulates All Others!

Check these seven important facts about Lo-K. Then mail the coupon below for the complete story of America's No. 1 insulation.

Lo-K gives greater insulating efficiency—thermal conductivity rate, only 0.24.

Lo-K is lighter in weight, only .875 lbs. per cubic inch.

Lo-K is easy to handle. Blanket roll cuts installation time and costs, fits snugly.

Lo-K is completely non-irritating to the skin.

Lo-K is economical. Pays for itself through greater fuel savings.

Lo-K is flameproofed. Resists blowtorch temperature of 1800° F.

Lo-K lasts indefinitely. Highly resistant to moisture, rot and vermin.



Lo-K

flameproofed

**COTTON
INSULATION**

Lockport Cotton Batting Co.
Dept. AF-3, Lockport, New York
Gentlemen:
Please send full details on Lo-K
flameproofed Cotton Insulation to:
Name _____
Address _____
City _____ Zone _____ State _____
 Architect Dealer Contractor

T. KIRK ALMROTH ASSOCIATES, specialists in product styling, packaging design, sales and industrial displays, models and mockups have opened an office and work-shop at 14215 Oxnard St., Van Nuys, Calif.

KENNETH WISCHMEYER and CHARLES LORENZ have formed an architectural partnership at 911 Locust St., St. Louis 1, Mo.

ALFRED RINAUDOT and C. WAYNE MEAD, registered architects, announce their association as Rinaudot & Mead, Housing Guild Bldg., 7240 Wisconsin Ave., Bethesda 14, Md.

HARRY AARENS, architect, announces the reopening of his office at 6428½ Selma Ave., Hollywood 28, Calif.

ONNIE MANKKI AIA has opened an industrial design and architectural office at 7113 Euclid Ave., Cleveland 3, Ohio.

FRANK GATES AIA and RAYMOND BIRCHETT AIA have become associated as Gates & Birchett, architects and engineers, with offices in Jackson and Vicksburg, Miss.

GEORGE CARR and CLARK WRIGHT announce the formation of Carr & Wright, Inc., architects and engineers, with offices at 333 N. Michigan Ave., Chicago 1, Ill.

JONATHAN BUTLER AIA and FRANCIS ROGERS AIA will continue the architectural practice of Jas. Gamble Rogers under the name Rogers & Butler, 70 E. 45th St., New York 17, N. Y.

FRANK WEHRLE RA now practicing in Sewickley, Pa. is opening a second office at 210 Grant St., Pittsburgh, Pa.

SAMUEL KURTZ AIA (formerly associated with York & Sawyer) has opened an office for general practice at 101 Park Ave., New York 17, N. Y.

DONALD THOMPSON offers a specialized service to bridge the gap between architect and production engineer. Without offering construction service, he will (Continued on page 70)

For Greater FIREPLACE EFFICIENCY

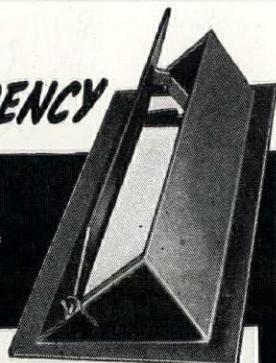
Majestic

FORMED STEEL *

Dampers

*FORMED STEEL

The heavy-gauge formed steel units developed by Majestic to meet war-vital needs proved the advantages of this advanced construction—which is now featured on the regular Majestic line, including Circulator Fireplace Units, Underground Garbage Receivers, Home Incinerators.



Rugged and Long-Lasting

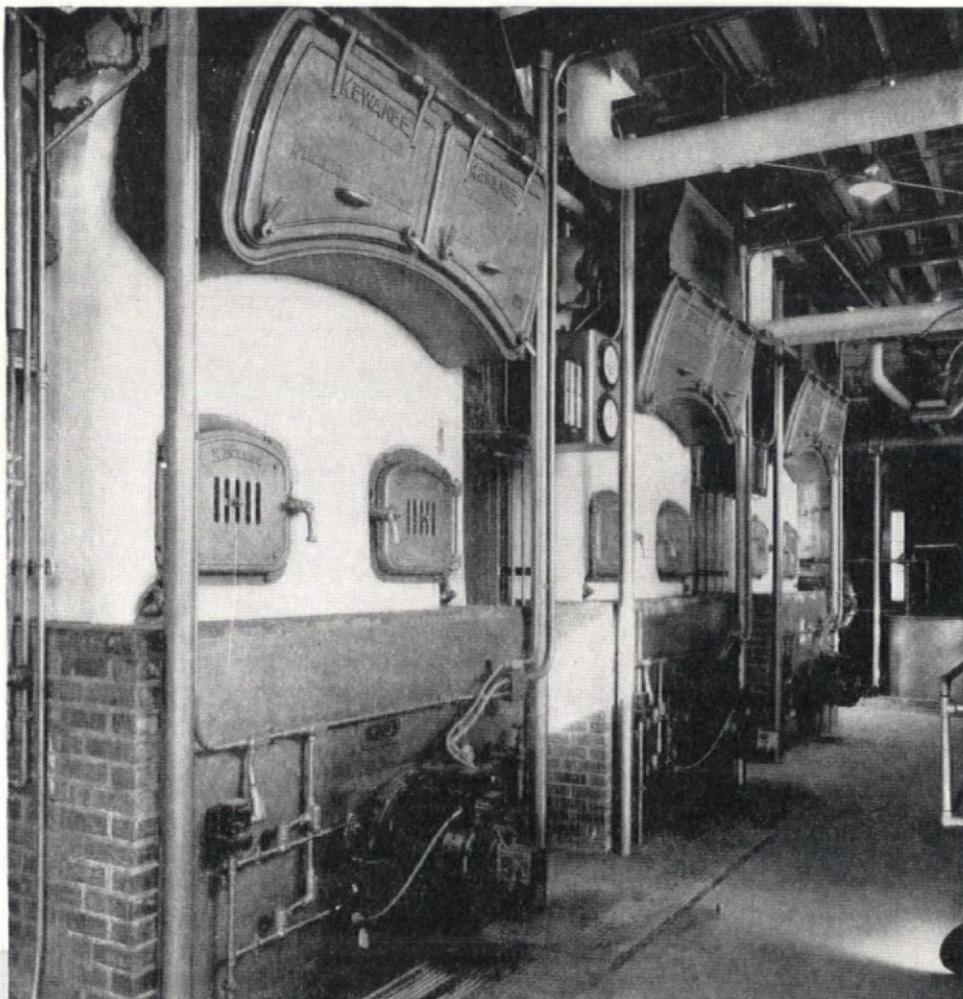
With Majestic Formed Steel Dampers the proper ratio of throat area to fireplace opening is constant. Correct height of throat and other dimensions are assured. Built to get highest efficiency from every fireplace, these dampers also withstand years of exposure to rust, smoke, soot, and heat without impairment. Valve closes tightly against frame. Operates easily with an ingeniously simplified poker control. The Majestic built-on lintel simplifies installation—no angle iron required. No fitting necessary. Damper rests flat on rough masonry. For safe draft control and permanent, smoke-free satisfaction, specify Majestic Formed Steel Dampers.

The Majestic Co.
833 ERIE STREET
HUNTINGTON, IND.

Nationally Known and Advertised for 40 years

**Oil Fired,
Heavy Duty
KEWANEE**

Typical set-up of a Kewanee Oil Fired, Heavy Duty Firebox Boiler as used by the U.S. Army and Navy for numerous installations.



KEWANEE

HEAVY DUTY STEEL BOILERS

Under the strain of extra strenuous service this Kewanee Series . . . whether used for power, process steam or heating . . . remains on the job many additional years delivering steam at minimum costs.

For mechanical firing with Oil, Gas and Coal, or for hand firing, Heavy Duty Kewanees are made in sizes to produce from 10 to 304 Horse Power at steam working pressures of 100, 125 and 150 pounds.



MEMBER

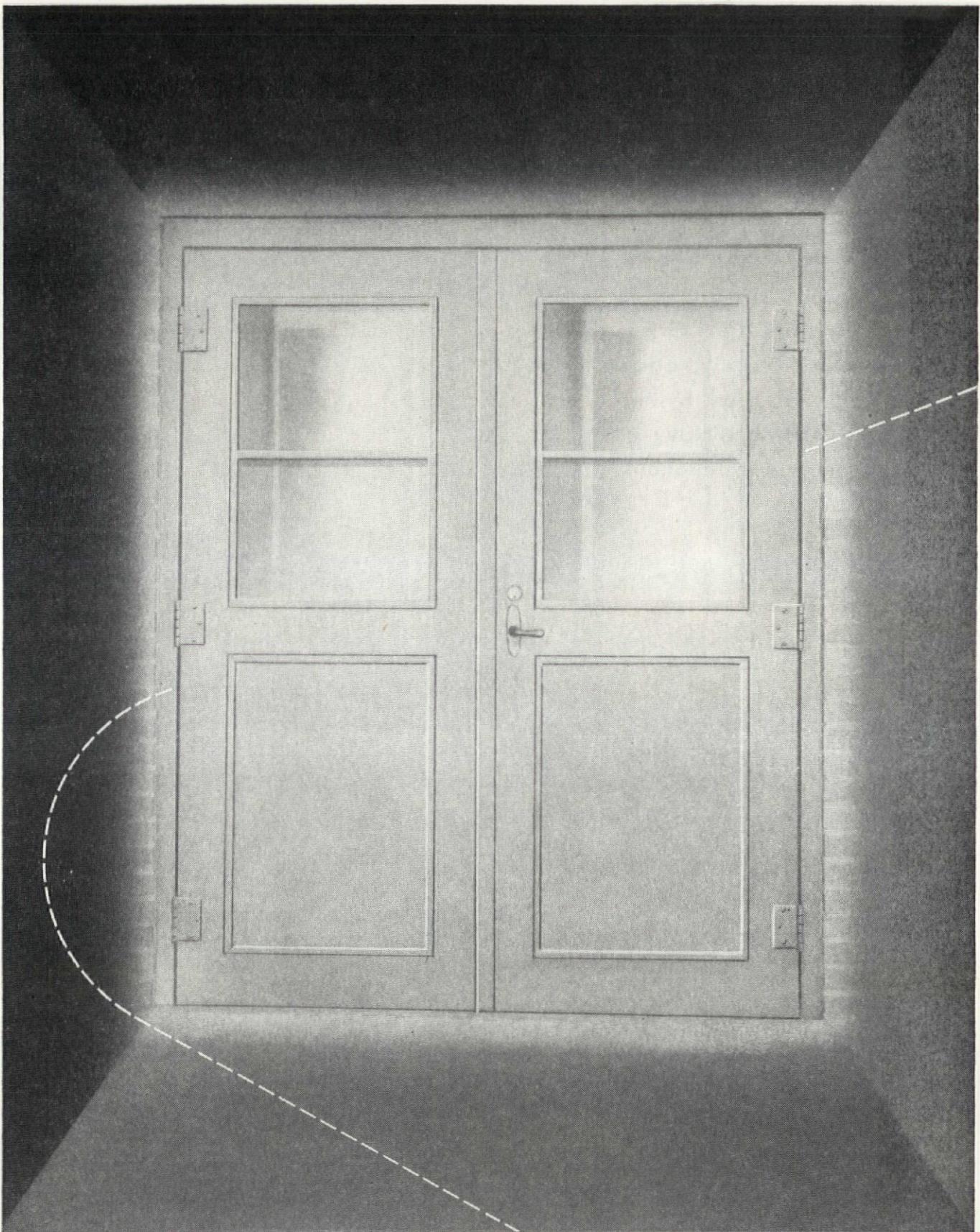
OVER
75 YEARS
BOILERMAKERS

KEWANEE BOILER CORPORATION
KEWANEE, ILLINOIS

Branches in 60 Cities—Eastern District Office: 40 West 40th Street, New York City 18

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION





In construction products **CECO ENGINEERING**



Industrial Steel Doors?

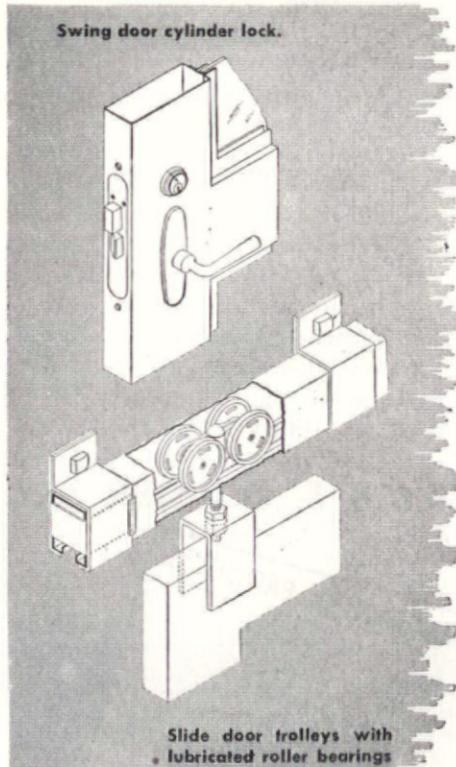
In any commercial, industrial, or public building, maintenance costs are a problem. One way to reduce such costs is to use industrial steel doors. That is because the initial cost is the final cost when steel doors are used. You can say "goodbye" to costly repairs. They are built to last and last. Just put the door in place and forget it. Here is another important advantage—steel doors are fire resistive. They are adaptable for service entrances, also suited for fire escapes, factory, office and penthouse entrances.

WHY SPECIFY CECO?

- 1 Accurately constructed of steel for hard usage as "working" doorways.
- 2 Glazing angles and stops hold glass solidly in place with screws.
- 3 Bottom panels spot-welded to stiles—no rattling.
- 4 Stiles and rails formed square. Corners mitred and solidly welded.
- 5 Accurately machined for easy installation of hardware.

WHY CECO HARDWARE IS BETTER . . .

Ceco gives you the finest industrial steel door hardware—specially designed for easy application and strong attachment to the door. All hardware is attached by through-bolting or by use of screws in reinforced tapped holes. No self-tapping screws are used. What is more, CECO uses the best non-ferrous locks—designed to prevent vandalism. There are no lock set screws on the outside.



CECO STEEL PRODUCTS CORPORATION

GENERAL OFFICES: 5701 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities

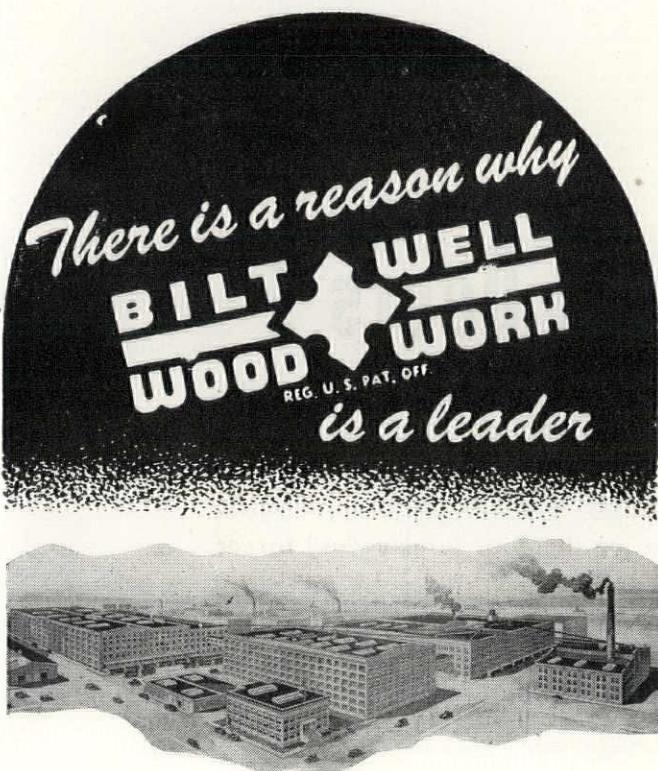
**CECO
STEEL**

makes the big difference

Partial list of Ceco Products:

METAL WINDOWS • ALUMINUM FRAME
STORM PANEL FOR METAL CASEMENTS
MEYER STEELFORMS • REINFORCING
STEEL • METAL FRAME SCREENS • METAL
WEATHERSTRIPS • STEEL JOISTS • METAL
LATH AND ACCESSORIES

ANNOUNCEMENTS



THIS is the modern plant where Bilt-Well Woodwork is groomed for its eventual role in the building programs being formulated today.

This is the modern plant where master craftsmen, research engineers, and industrial designers pool their ideas in the scientific development of building products.

This is the modern plant where unlimited facilities make it possible to produce a high standard of quality . . . where scientific methods are extended toward the maximum achievements in the production of Bilt-Well Woodwork.

This is the modern plant where woodworkers, generation after generation, have taken unusual pride in their work . . . where ingenuity and initiative are reflected in the outstanding craftsmanship of Bilt-Well Woodwork.

CARR, ADAMS & COLLIER CO.
DUBUQUE, IOWA



prepare preliminary plans for size, character, equipment arrangement and handling of buildings; his office is at 608 Atlas Bldg., Charleston, W. Va.

ELWYN SEELYE, ALBERT STEVENSON and BURNSIDE VALUE have formed the partnership, Seelye, Stevenson & Value, Consulting Engineers, 101 Park Ave., N. Y.

A new division of BALDWIN and MERMEY, headed by Alfred Stern, offers a service for planning and staging industrial and product exhibits at 205 E 42nd St., New York 17, N. Y.

RAY-SHIELD PRODUCTS, designers, fabricators and constructors of X-ray protection and light-proofing products, have established an office at 200 W. 34th St., New York, N. Y.

CHANGES OF ADDRESS

MACKIE and KAMRATH, architects, are now located at 2713 Ferndale Place, Houston 6, Texas.

LEON FAGNANI AIA has moved his office to the Pennsylvania Railroad Bldg., Wilmington, Del.

HOLMES & NARVER, engineers, have moved to 824 S. Figueroa St., Los Angeles 14, Calif.

H. K. FERGUSON Co. has moved its Cleveland office to the Ferguson Bldg., E. 11th St. and Walnut, Cleveland 14, O.

ARTHUR ROWE & ASSOCIATES, architectural and structural consulting engineers, are at their new address 1743 E 25th St., Cleveland 14, O.

WILLIAM PAHLMANN ASSOCIATES announce that they are now located at 218 E 58th St., New York 22, N. Y.

BARUCH CORPORATION has moved to 5655 Wilshire at Hauser, Los Angeles 36, Calif.

FREDERICK LAWRENCE announces that his address is now Gifford St., Falmouth, Mass.

Stainless Steel

SINKS AND CABINET TOPS

**CUSTOM BUILT
TO YOUR SPECIFICATIONS**

Custom fabrication is an original policy of Just Manufacturing Company and we have maintained that policy throughout the years. The needs of our custom-built trade have always had preference and always will. You design the cabinets . . . we build the sinks and cabinet tops to fit your design . . . any size . . . any shape, and they will always have that incomparable . . .

Radiilux Quality

which gives you two important exclusive features:

IN-BUILT ANTI-SPASH RIM ON BOWLS, DOUBLE-PITCH DRAIN-BOARDS with no channels to clean, no grooves to endanger fine glassware.

ALL WELDED, seamless construction polished to a beautiful satin finish . . . radius corners in bowls, vertically and horizontally . . . fully sound deadened and many other quality features.

Other JUST LINE products are Cabineteer "Package Unit" Stainless Steel Sinks, Stainless Steel Scullery Sinks, and Galvanized Scullery Sinks that are hot-dip galvanized after fabrication.

Write today for bulletins and details.



Just Line



Just Manufacturing Co.
4610-20 W. 21st Street, Chicago 50, Illinois

EXT.- D.F.P.A.

Quality



PLYPANEL D.F.P.A.

These "Grade Trade-Marks"
Identify Every Panel of
Genuine Douglas Fir Plywood

Every type and grade of Douglas fir plywood is readily identified by one of these "grade trade-marks". Such a mark on a plywood panel is your assurance that rigid standards of quality have been met throughout the manufacturing process — and that the panel has been made especially to meet the particular use for which the grade was originated.

Performance

In Countless Applications — in Peace and in War
— Douglas Fir Plywood Has Proved Itself

More Fir Plywood Soon Will Be Available for All Uses

The unusual demands of today's home building program have made the supply of Douglas fir plywood temporarily critical. But more plywood is being manufactured today than in pre-war years, and as controls are lifted an ever-increasing supply will flow into normal trade channels. Keep in touch with your regular source of supply!

Builders and specifiers have learned to turn to Douglas fir plywood whenever the need is for a material which is durable yet easy to work, light yet strong and rigid, economical yet dependable. This modern "miracle wood" is made in many grades, each engineered for particular jobs. Each is thoroughly tested in the Douglas Fir Plywood Association laboratory and proved in actual use conditions. Douglas fir plywood has served with exceptional performance in home building, in general construction, in industry, in marine work . . . for outdoor

sign work, as an all-purpose farm material, and for many types of railroad applications. Choose the type and grade for your particular need—and use it with the knowledge that it has been thoroughly proved through years of use.



DOUGLAS FIR PLYWOOD ASSOCIATION
Tacoma 2, Washington

Draperies
of
Fiberglas *

**set a fashion in
SAFETY**



Fires can't start or spread in noncombustible decorative hangings

Serious fires usually result from the rapid spread of flames through materials that *can* burn.

Now, replace an inflammable material with one that *can't* burn—and you eliminate a fire hazard.

Decorative hangings woven from Fiberglas yarns can't burn. They're *glass*. They're *originally* and *permanently* *noncombustible*. Furthermore, in the midst of fire or searing hot blasts, these fabrics of Fiberglas will not contribute to the further depletion of oxygen, will not give off suffocating smoke and fumes.

In hundreds of places of public assembly from

coast to coast—in hotels, restaurants, clubs, schools, hospitals, auditoriums—architects, decorators and owners are designing for safety, including in their plans these decorative, non-combustible fabrics of Fiberglas.

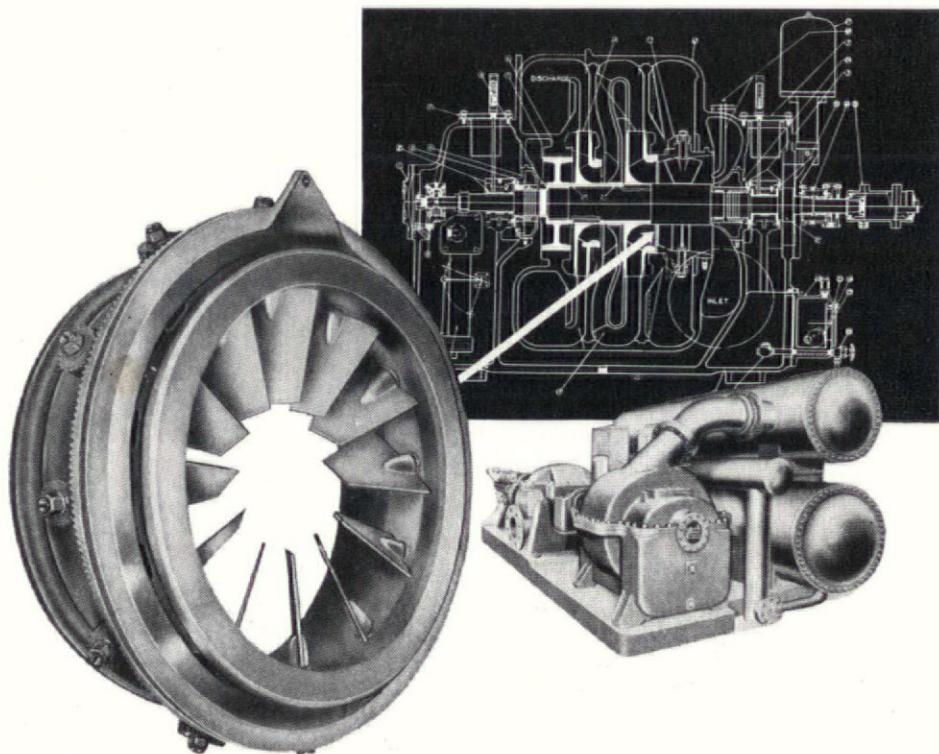
Many attractive weaves and colorful patterns are available—and expert fabric service shops located in principal cities are ready to fashion and hang the draperies you select for your decorative scheme . . . write Owens-Corning Fiberglas Corporation, Dept. 830, Toledo 1, O.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario.

*Listed by Underwriters' Laboratories, Inc., as
"Noncombustible Fabric".

OWENS-CORNING
FIBERGLAS
TM REG U.S. PAT OFF

This is important to the man about to select refrigeration or air conditioning equipment:



**90 percent Flexibility
with Pre-Rotation Vane Control
...exclusive with
York Allis-Chalmers Turbo Compressor**

The Pre-Rotation Vanes illustrated are an exclusive design feature, and provide extreme operating flexibility to meet varying load demands down to as little as 10 percent of full load. Adjustment of the vanes varies the angle at which the refrigerant gas enters the impeller wheel, and imparts a "pre-rotation" to the gas, thus changing the performance char-

acteristics of the compressor resulting in stabilized performance over this extreme capacity range. In effect, each position of the vanes puts a different compressor "on the line."

This is but one of the many features of the complete York line of refrigeration and air conditioning products.

York Corporation, York, Penna.

YORK *Refrigeration and
Air Conditioning*

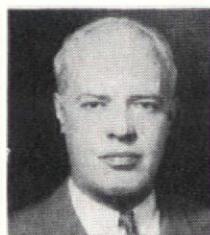


HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

**This TOO is
important to the
man about to select
refrigeration or
air conditioning
equipment**

York experience and York engineering assistance are available where you are, to complement York mechanical design advancements and the complete range of York equipment.

In the New York Area, for example, District Manager Christensen has a corps of seventeen sales engineers assigned to service York customers in this district. Their practical and technical assistance is available to you, whether you are planning, purchasing, installing or operating refrigeration and air conditioning installations.

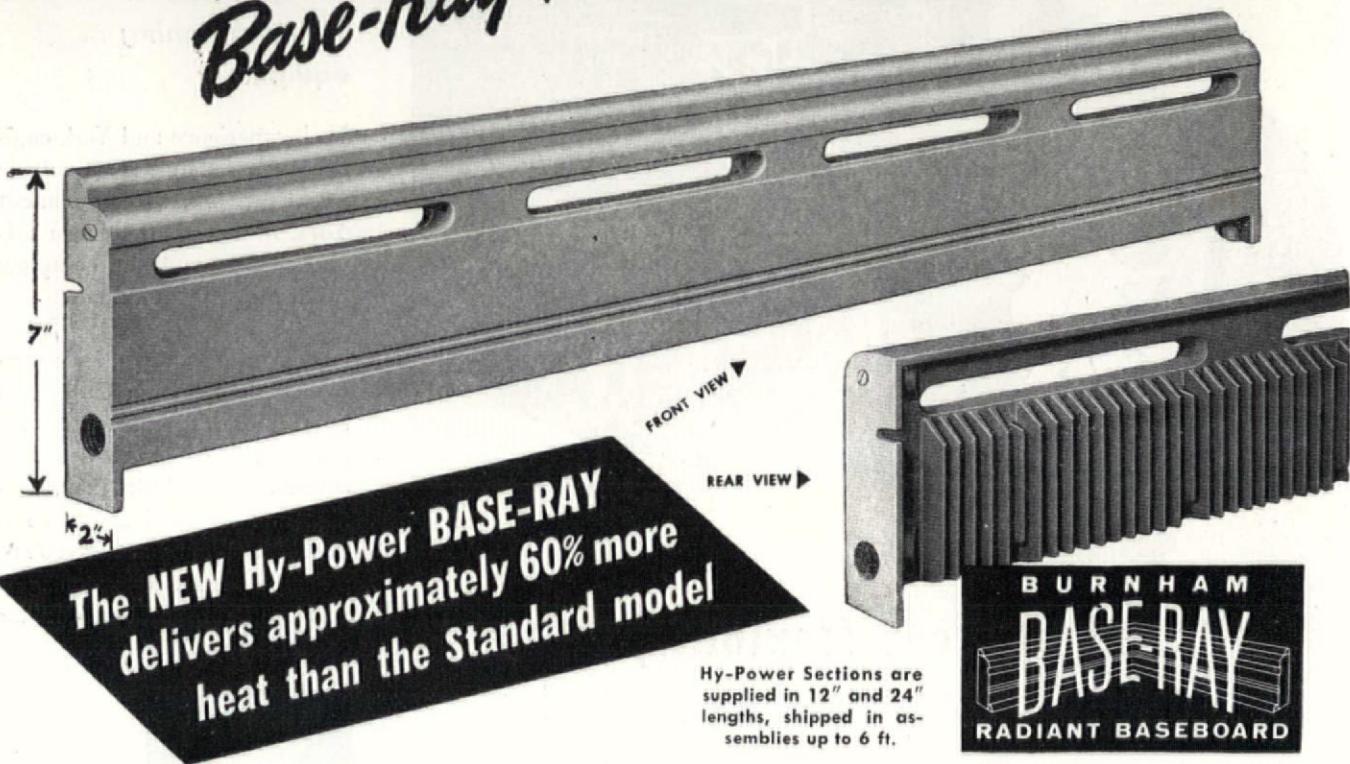


A. CHRISTENSEN
District Manager

Assisted by:

R. K. Serfass, Sales Manager
W. Allen
A. N. Barnes
H. W. Coon
A. J. Cordrey
J. G. Doebrich
C. Egbert
J. E. Fitzsimmons
J. W. Floreth
C. P. Foley
R. F. Fox
W. S. Galazzi
L. J. Jacobson
J. Krsnak
E. Lilygren
E. Spencer
C. Weigand

Now! Even Hard-to-Heat Homes Can Be Heated with *Base-Ray® Radiant Baseboards*



The greater heat output of Hy-Power BASE-RAY is achieved through the use of vertical fins on the back of the unit, with air inlets at the bottom and outlets at the top. This type of BASE-RAY radiant baseboard is recommended for rooms or homes requiring extra heat and for rooms where baseboard space is at a minimum.

With Standard and Hy-Power BASE-RAY the architect is in a position to solve a great variety of heating problems with Radiant Baseboard units. Both types are simple to install. Neither requires any structural change, in old or new dwellings. Both can be used with any hot water, two-pipe steam or vapor system.

Aside from the obvious design advantages of Burnham BASE-RAY heating, these cast-iron baseboard units offer modern *Radiant Heating* in its best and simplest form. National advertising is continuously informing your clients of the unique advantages of BASE-RAY radiant heating. It will pay you to get all the facts. Won't you mail the coupon TODAY?

*Reg. U. S. Pat. Off.

Burnham Boiler Corporation

IRVINGTON, N. Y., Dept. AF-37

Member of the Institute of Boiler and
Radiator Manufacturers



MAIL COUPON BELOW FOR BOOKLET GIVING COMPLETE INFORMATION ON BASE-RAY RADIANT BASEBOARDS

It gives ratings and installation data which will bring you up-to-date on this new and simple form of RADIANT heating.



Burnham Boiler Corporation
Irvington, New York

Dept. AF-37

Please send me copy of "Ratings and Installation Guide on BASE-RAY Radiant Baseboards".

Name.....

Address.....

City..... State.....

This front of L-O-F Polished Plate Glass says "welcome" in clear, bright tones. The view of the interior creates an impression of pleasant efficiency.



**TURNS AN OPEN FACE
TO ITS PUBLIC**

Count on this modern business to use up-to-date architectural treatment in its new Chicago ticket office.

Designed by Architects Skidmore, Owings & Merrill of Chicago for Trans World Airline, this beautiful "store" uses glass to let people see in—to invite them in. Its pleasant atmosphere owes much to intelligent use of glass. It is another example of a Visual Front—the "open" type front that puts more appeal, more zest and more selling power into business places. Libbey·Owens·Ford Glass Co., 6437 Nicholas Bldg., Toledo 3, Ohio.



A This stairway is smart in more than appearance. The transparent panels of glass are L-O-F Tuf-flex*—plate glass that is tempered for greater resistance to impact.

B Light from the "egg crate" ceiling streams through diffusing panels of Flutex Patterned Glass. Note how the fixtures extend through the front to provide a lighted marquee.

*Reg. U.S. Pat. Off.



LIBBEY·OWENS·FORD
a Great Name in **GLASS**

Beauty is
a Matter of
Perfection



The perfect Venetian Blind is made of —

• Here is the new, durable, fireproof Venetian Blind that will render your clients a lifetime of satisfaction and beauty. Made of light, precision-formed flexible aluminum alloy... $\frac{1}{3}$ the weight of ordinary blinds... Flexalum is the modern approach to window beauty. Flexalum's satin-smooth plastic finish blends with every decorative setting, resists weather stains and cleans with the flick of a brush. Flexalum is rust-proof, warp-proof, will not crack, chip or peel. The perfection of Flexalum makes it first choice for homes, offices and institutions.

Flexalum
REG. U. S. PAT. OFF.

Ask your manufacturer of custom-made Venetian Blinds
to give you complete specifications for Flexalum.

HUNTER DOUGLAS CORPORATION, RIVERSIDE, CALIFORNIA • 150 BROADWAY, NEW YORK 7, N. Y.

The Architectural

FORUM

Magazine of Building



A PLATE GLASS PANEL
BETWEEN OPPOSED
ROOF ANGLES LIGHTS
THIS HANDSOME FOYER

Maynard L. Parker, photo

Hilltop house has a living room roof built like an airplane wing

HOUSE IN ROSS, CALIF.

MR. & MRS. L. E. DAVID, Owners

GARDNER A. DAILEY, Architect

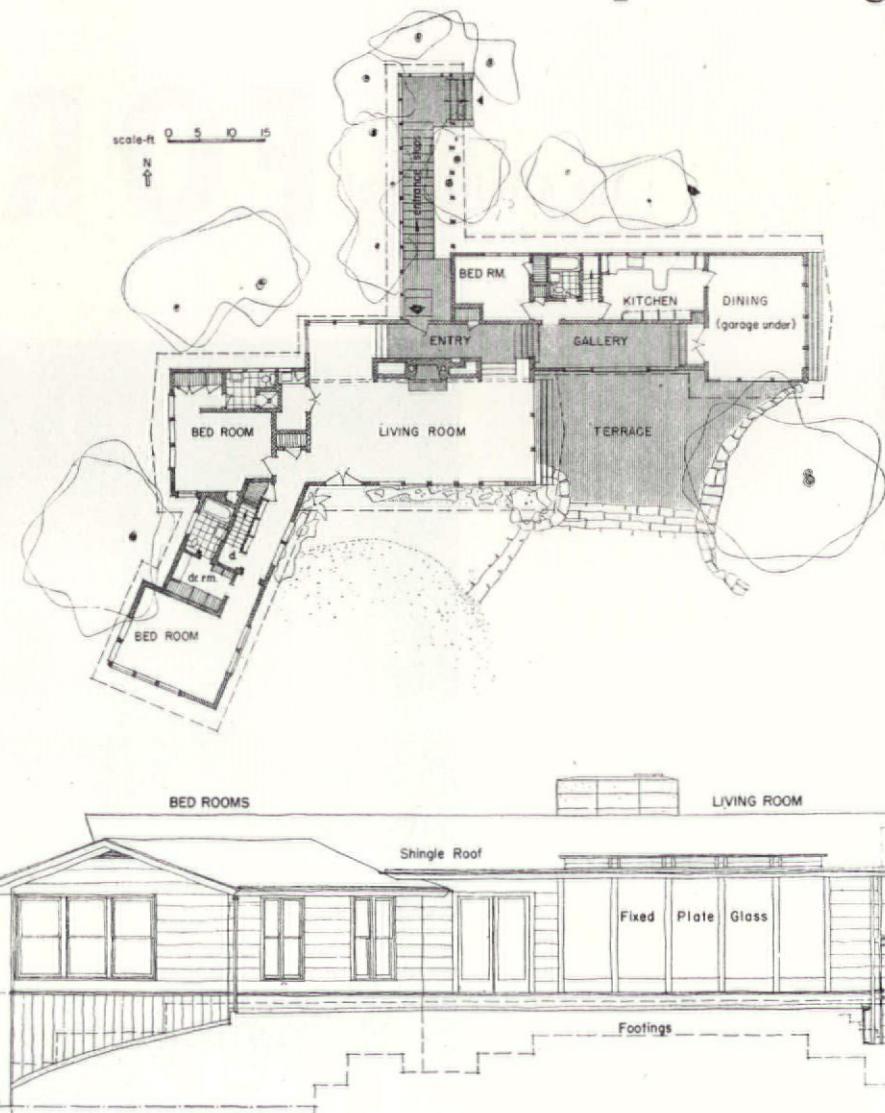
Gardner Dailey is probably the leading designer in his area of those easy, handsome, indoor-outdoor dwellings that lie so gracefully on California's sunny hills. On these and the following pages are two examples of diverse types he has designed: a low, rambling residence on a wooded slope, contrasted with a slim, compact apartment house on a city hill.

This house is in wooded Marin County, on the north side of San Francisco Bay. In order to preserve the trees, very little grading has been done; thus, the house not only climbs, but floor levels rise and fall to suit the grade. The inaccessibility of the site made it impossible to reach the top of the hill by car, so the garage is on the lower level. From there brick garden steps, covered with a long sloping roof and protected by glass on one side against prevailing winds, lead upward to the house, where the brick garden walk continues on into a sunny porch. The changes of level create an interesting interlacing roof-line that keeps step with the hill—a feature often found in early California mining towns.

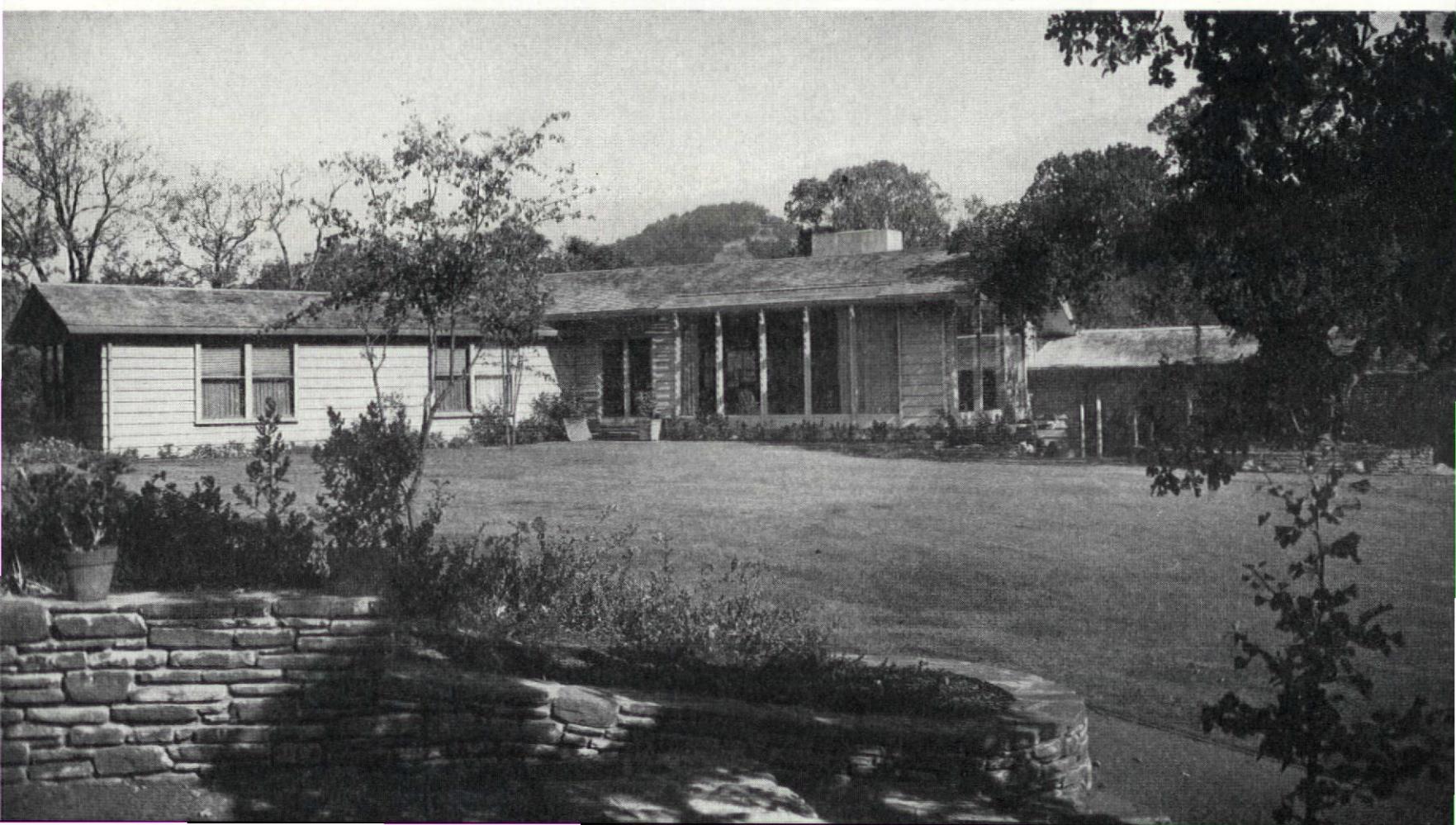
The roof over the living room is one of the first "internally braced" roofs used in a residence, and is based on the same construction principle as an airplane wing, eliminating cross ties. It is tapered at the end in the same way as an airfoil. This principle has since been developed by the architect in a "skin-stressed" panel roof construction.

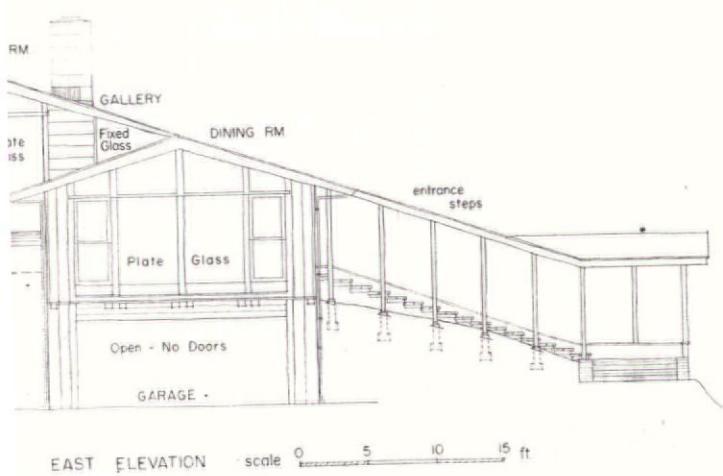
scale-ft 0 5 10 15

N



ASHLAR RETAINING WALLS AND NEAT LEVEL LAWN AREA RESTRAIN THE NOTORIOUSLY EBULLIENT CALIFORNIA LANDSCAPE

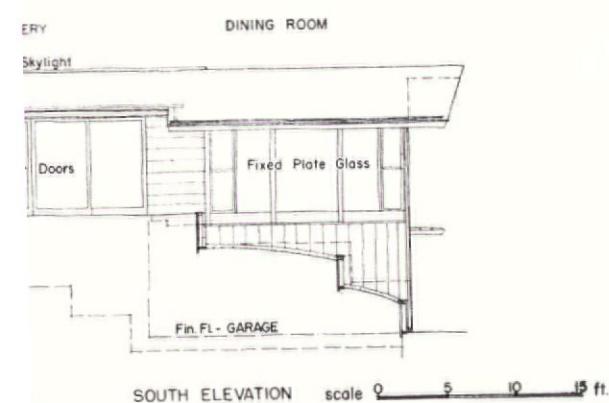




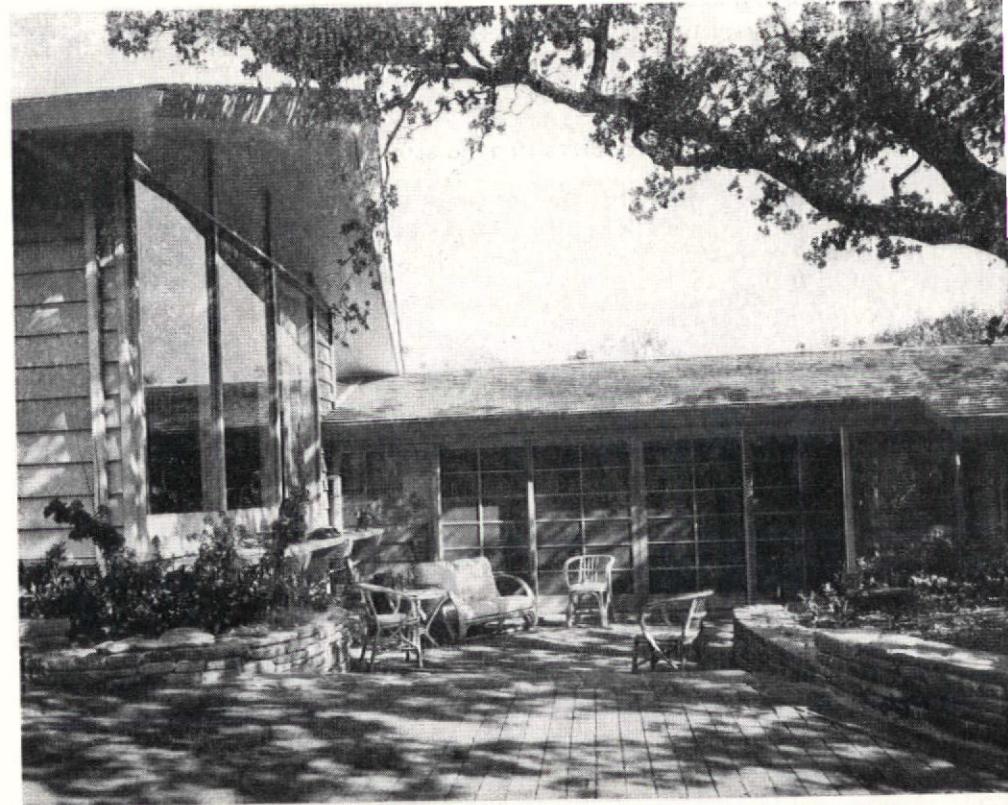
EAST ELEVATION scale 0 5 10 15 ft.



LIVING ROOM HAS BIRDSEYE VIEW OF TERRACE AND DINING ROOM



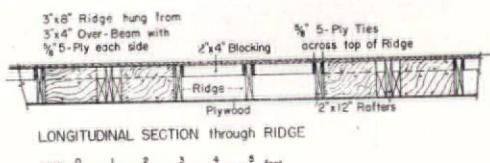
SOUTH ELEVATION scale 0 5 10 15 ft.



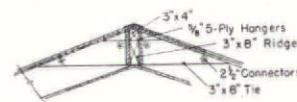
OPEN TERRACE ADJOINS GLASSED-IN GALLERY AREA ON LOWER LEVEL

CONSTRUCTION OUTLINE

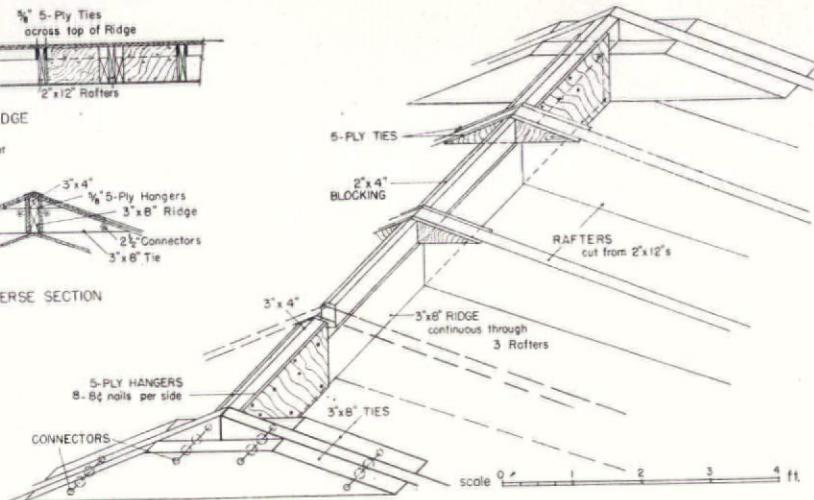
FOUNDATIONS—reinforced concrete. **STRUCTURE**: Exterior walls—California redwood. **ROOF**—redwood shingles. **FIREPLACE**—concrete blocks. **SHEET METAL WORK**—16 oz. soft copper. **WINDOWS**: Sash—sugar pine. Glass—double strength, Pittsburgh Plate Glass Co. Weatherstripping—Chamberlain Metal Weather Strip Co. **FLOORS**: Main rooms—oak. Kitchen and bathrooms—linoleum, Armstrong Cork Co. **WALL COVERINGS**: Living room—white pine plywood; remainder—plaster. **PAINTS**—W. P. Fuller & Co. **HARDWARE**—Sargent & Co. **ELECTRICAL INSTALLATION**: Wiring—knob and tube. Switches—tumbler. **KITCHEN EQUIPMENT**: Range—General Electric Co. Dishwasher—Hot Point, Edison General Electric Appliance Co., Inc. **BATHROOM EQUIPMENT**—Kohler Co. **PLUMBING**: Soil pipes—cast iron. Vent pipes—wrought iron. Branch lines—galvanized iron. **HEATING**—forced warm air, Customair, Nelson Air Device Corp.



LONGITUDINAL SECTION through RIDGE



TRANSVERSE SECTION



Telegraph Hill apartment is angled for the view

APARTMENT IN SAN FRANCISCO, CALIF.

GARDNER A. DAILEY, Architect

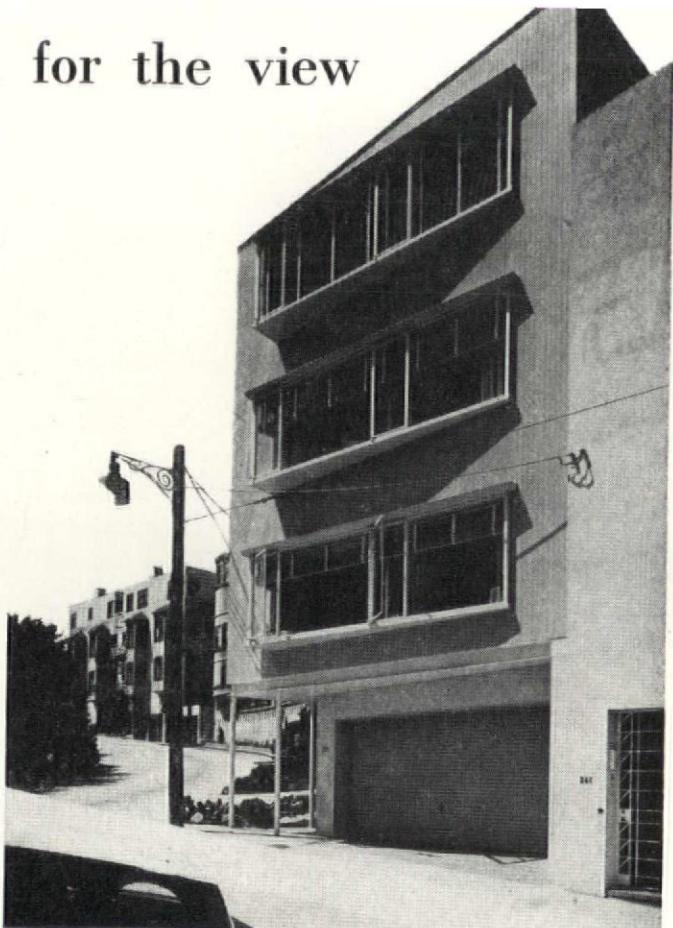
MOORE & MADSEN, General Contractors

The windows of this small apartment building project to catch the view of San Francisco Bay. Crammed into an inside 25 ft. lot, the building was limited to three floors for living purposes by local ordinance. The architect says, "In size, it is in the 'Parlor-Bedroom-and-Sink' class although the term 'Studio' seems to describe it more elegantly."

There are six complete apartments, two on each floor. All waste space has been eliminated, and the living room and bedroom areas are one, with a folding screen for privacy in the sleeping end. A metal kitchen unit is recessed into the wall, and each tenant has his own furnace and water heater.

A feature of the design is the exposed concrete wall of the garage on the ground floor and the structural steel of the first floor support, also exposed, revealing the structure of the building. Upper walls are sheathed in redwood.

EVERY INCH OF SPACE COUNTS IN THIS SMALL APARTMENT BUILT FOR WHITE-COLLAR WORKERS

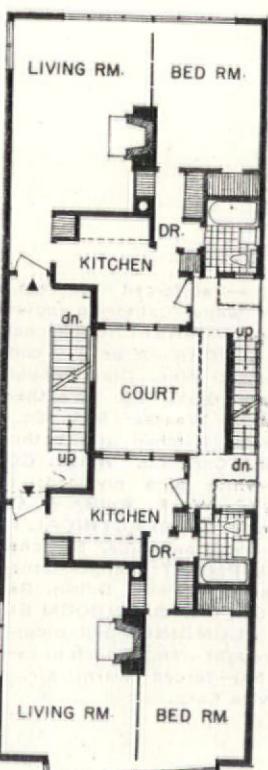
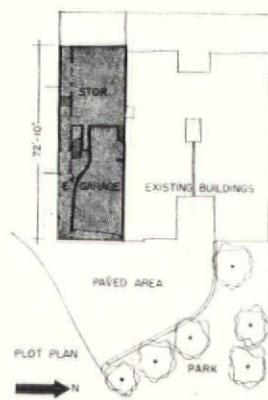


Roger Sturtevant,
photos



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—redwood over Douglas fir sheathing. **WINDOWS:** Sash—steel, Soule Co. **FLOOR COVERINGS:** Kitchen-linoleum, Congoleum-Nairn, Inc., baths—tile. **FURNISHINGS:** Kitchen unit—Acme Metal Products Corp. **PLUMBING:** Fixtures—Kohler Co. **HEATING:** Gas fired forced warm air, Dustomair, Nelson Air Device Corp. Regulator—Minneapolis-Honeywell Regulator Co. Water heater—Pittsburgh Water Heater Co.

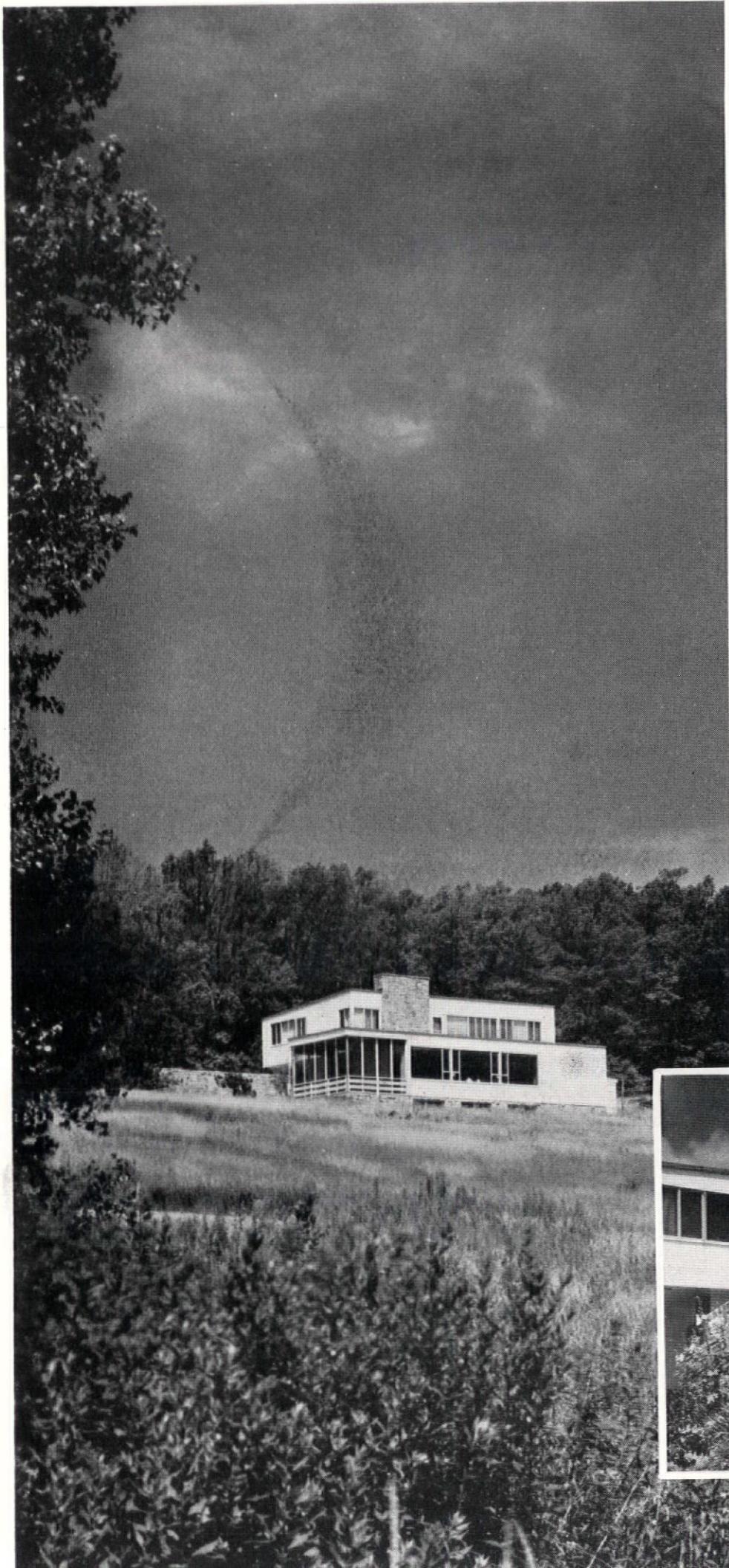


0 5 10 15 20 25
SCALE

TYPICAL FLOOR PLAN

New England house is modern counterpart of colonial neighbors

Ezra Stoller photos



HOUSE IN DOVER, MASS.

MR. & MRS. CHARLES JACKSON JR., Owners
ELIOT F. NOYES, Architect
G. HOLMES PERKINS, Supervising Architect
ELEANOR HAMMOND, Landscape Architect
HORN BROTHERS, General Contractors

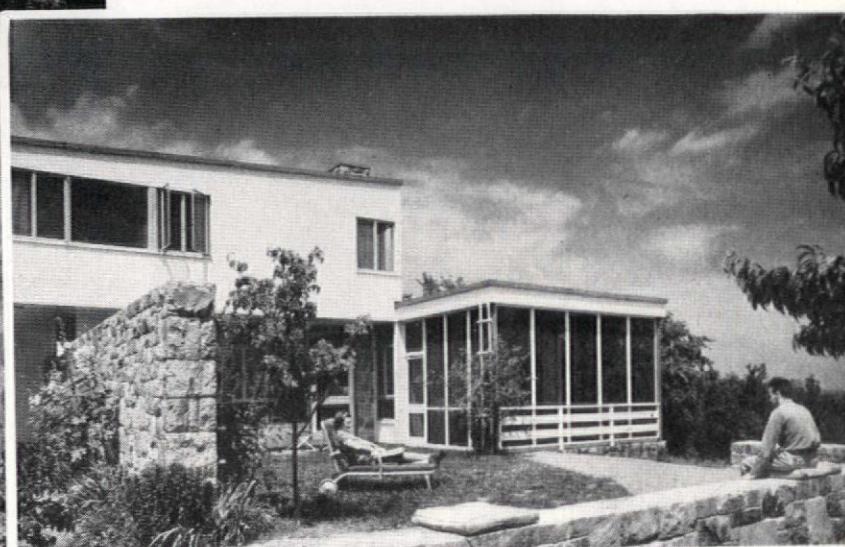
In the early days, New England tradition produced many a trim, boxlike white house with central field-stone chimney, around which there followed an evolutionary growth of the house, wing by wing. This early architectural tradition had much in common with the classic simplicity of the modern international style. The house shown here is a natural combination of the two trends.

The owners describe the qualities they have discovered in their house: "One has claustrophobia in ordinary houses after living in a modern one. We wouldn't change any of the basic features: We think that the exterior of the house (our relatives to the contrary notwithstanding) is well proportioned and fits into the hillside and background of trees. The view to the east is a continued joy through the large windows. To the north we look out on woods and hillside at closer range and the picture changes with the seasons. The large windows let in light and allow one to enjoy a snowstorm from a cozy spot beside the fire. The sun warms up the house very quickly through the large expanse of glass."

"The simplicity of the walls, with their large plain surfaces, shows our antique furniture to great advantage. Lack of molding and paneling makes the house easy to keep clean. The arrangement of kitchen, pantry and dining room is compact and allows the least possible waste of steps and effort."

"THE HOUSE IS WELL-SUITED TO THE LOCATION . . .

. . . WITH VIEW OF TOWN AND COUNTRY TO THE EAST."



HOUSE IN DOVER, MASS.



"FAMILY HEIRLOOMS FROM DARK CORNERS . . .

. . . NOW STAND OUT IN ALL THEIR TRUE VALUE WHERE ONE CAN REALLY SEE AND ENJOY THEM."

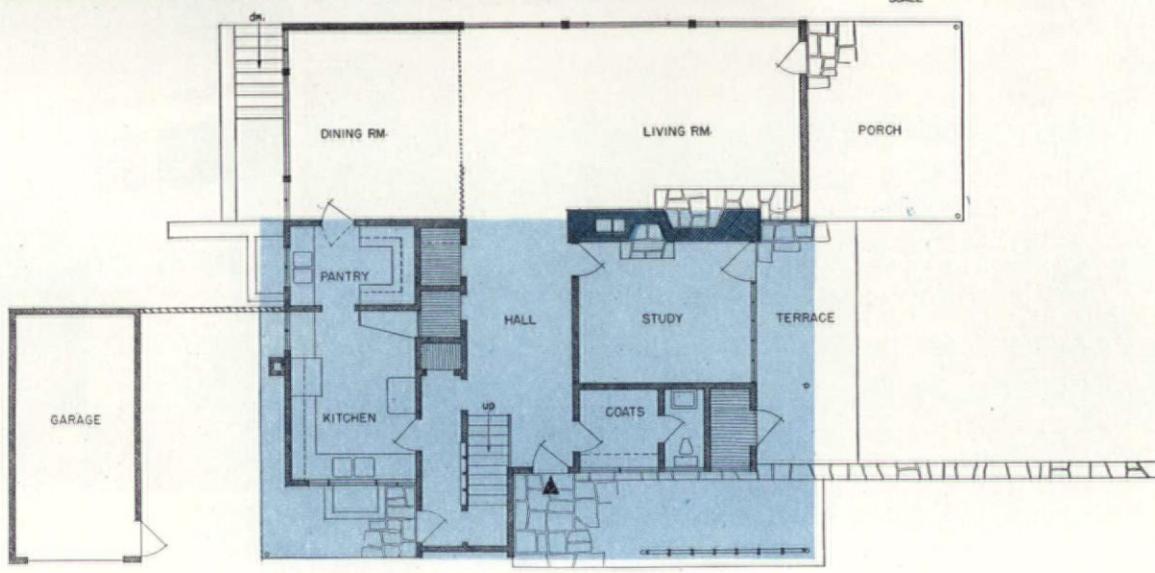
As in so many of the house's earlier prototypes, the central core of stone holds several fireplaces: two on the ground floor, one in the main second-floor bedroom, one in the basement playroom. The well-designed stonework forms a considerable portion of the wall surface in these rooms; and is repeated outside in a projecting wall sheltering the south terrace.

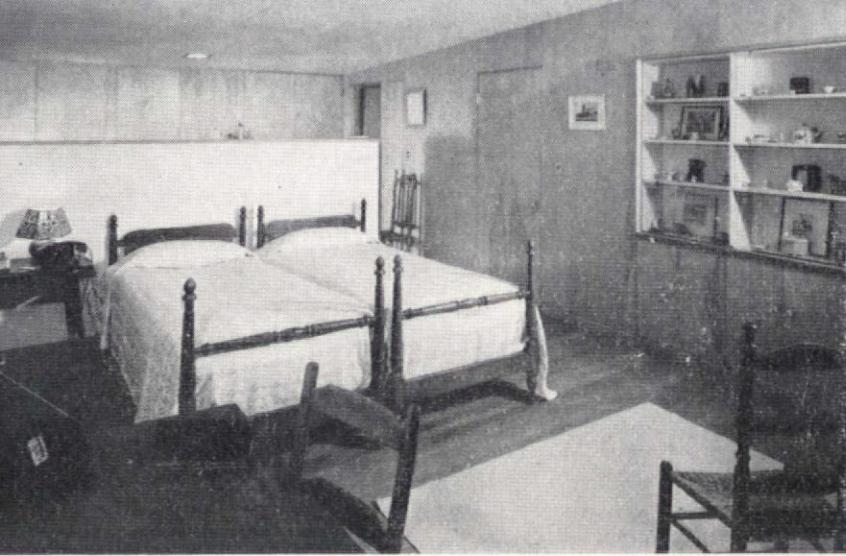
The house was designed to provide for expansion to the north on either or both floors. An extension is already being developed for a laundry and maid's quarters on the first floor, additional bedrooms on the second floor.

Ezra Stoller photos



0 5 10 15 20 feet
SCALE





"WE LIKE THE PLYWOOD WALLS, PARTICULARLY THE UNPAINTED ONES."

THE SELECTION AND ARRANGEMENT OF
THE STONework HAS BEEN VERY GOOD."

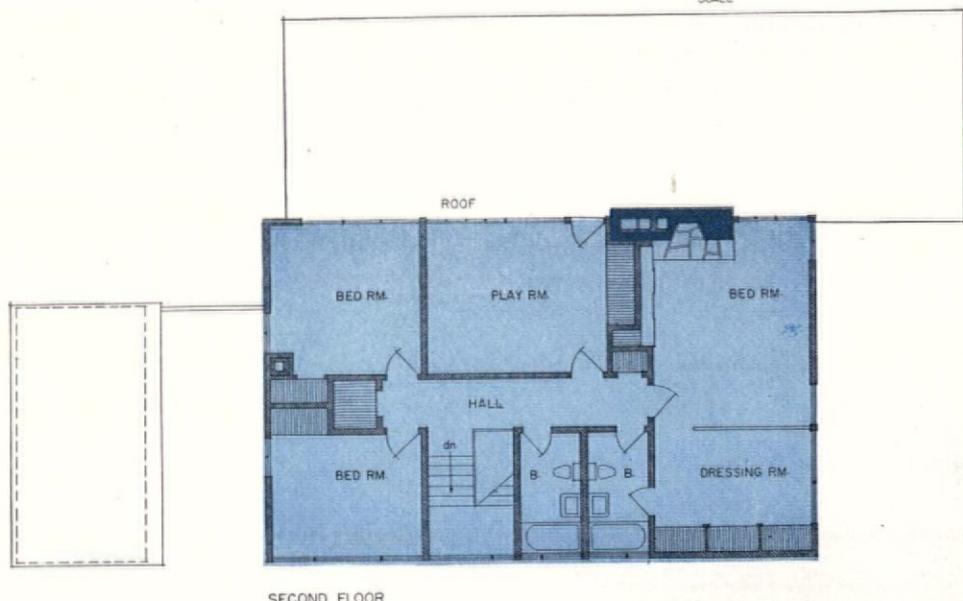


THE FACT THAT THE BEDROOMS ARE NOT OVER THE LIVING ROOM EFFECTIVELY ISOLATES ONE FROM THE OTHER."

CONSTRUCTION OUTLINE

FOUNDATION—concrete. **STRUCTURE**: Walls—plywood, vertical siding, sheathing, studs and insulation. Ceiling finish—plywood, painted. **INSULATION**—Red Top insulating wool, U. S. Gypsum Co. Roof insulation—Johns-Manville. **FIREPLACE**: Damper—H. W. Covert Co. **WINDOWS**: Sash—steel, Hope's Windows, Inc. Glass—Penn-vernion, Pittsburgh Plate Glass Co. **STAIRS**: Treads and stringers—oak. Risers—white pine. **FLOOR COVERINGS**: Main rooms—oak. Kitchen—linoleum. Bathrooms—cork. **ELECTRICAL INSTALLATION**: Wiring system—AC. Switches—General Electric Co. **KITCHEN EQUIPMENT**: Range—AGA—. **LAUNDRY EQUIPMENT**: Washing machine—Bendix Home Appliances, Inc. **BATHROOM EQUIPMENT**—Kohler Co. **HEATING**—hot water system.

0 5 10 15 20 feet
SCALE



Professor's house features separate-access study for student

HOUSE IN EVANSTON, ILL.

LAMBERT H. ENNIS, Owner

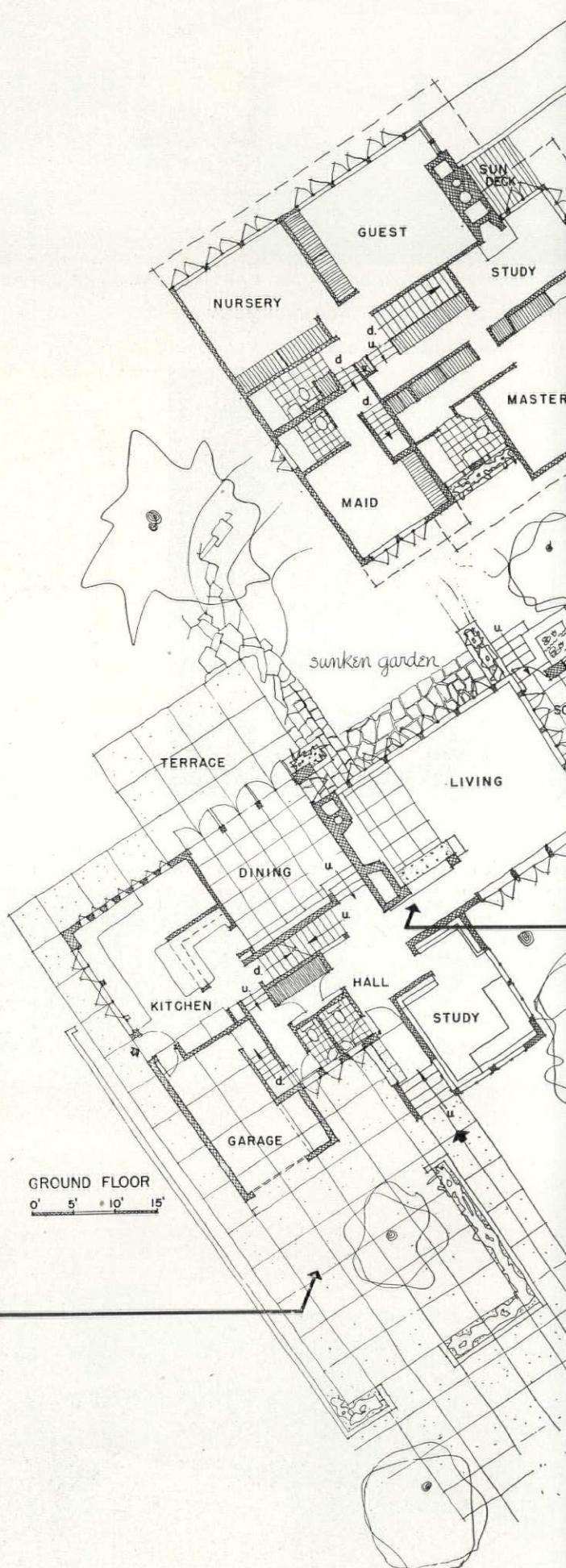
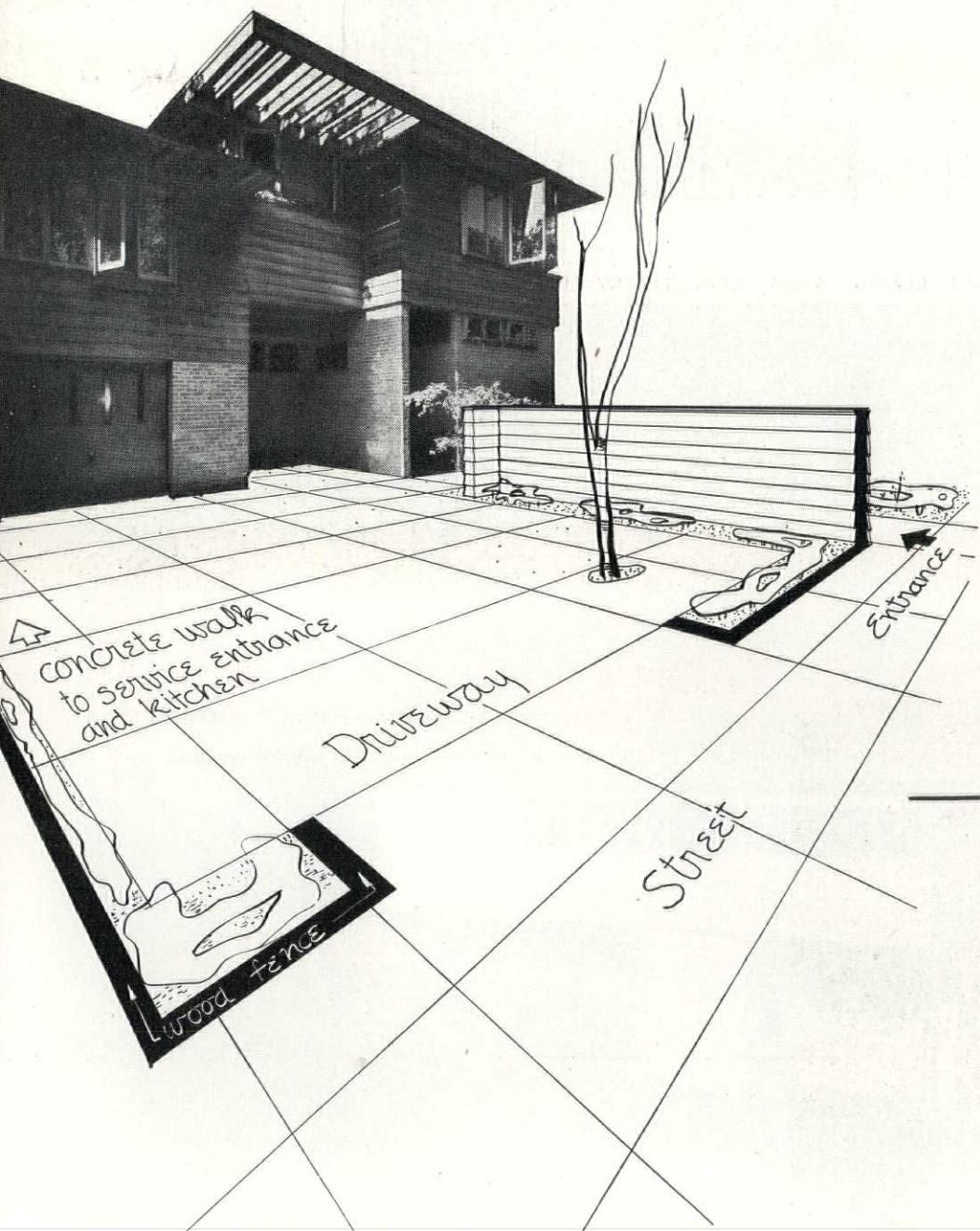
WILLIAM F. DEKNATEL, Architect

SAMUEL R. LEWIS, Consulting Engineer (heating)

Another regional tradition of U. S. architecture, quite different from the New England trend seen on the preceding pages, is followed in this large residence. Appropriately enough, it is located in the Chicago suburb near Oak Park where Wright built his first house.

Extremely restricted property somewhat influenced the design, as the house had to be planned within a rectangle 50 by 75 ft., located 6 ft. from the east property line and 27 ft. from the sidewalk. The lot is in a small subdivision of the estate of the late Daniel H. Burnham; due to stipulations in the deed, the street side of the house is treated as the rear and the orientation is actually south and west. Further restrictions of the Evanston building code determined ceiling heights and type of construction. Another was the professor-client's requirements for a study accessible to students without their intrusion into the normal life of the house. Also a study for his wife's writing, plus the usual living space for themselves and their one child.

Numerous substitutions of material were made to avoid critical items: a semi-mill type of construction was used rather than the originally planned steel beams, with each window mullion carrying a wood beam and the 5 ft. 4 in. space between spanned with 2 in. mill flooring. The radiant heating system is in the ceiling.





Hedrich-Blessing photos



RIBBON WINDOWS ARE OUTSWINGING CASEMENT TYPE
WITH GLAZED SECTIONS LAID AGAINST FRAMES OUTSIDE
RATHER THAN SET INTO AND BETWEEN FRAMES



ENTRANCEWAY INTO LARGE LIVING ROOM

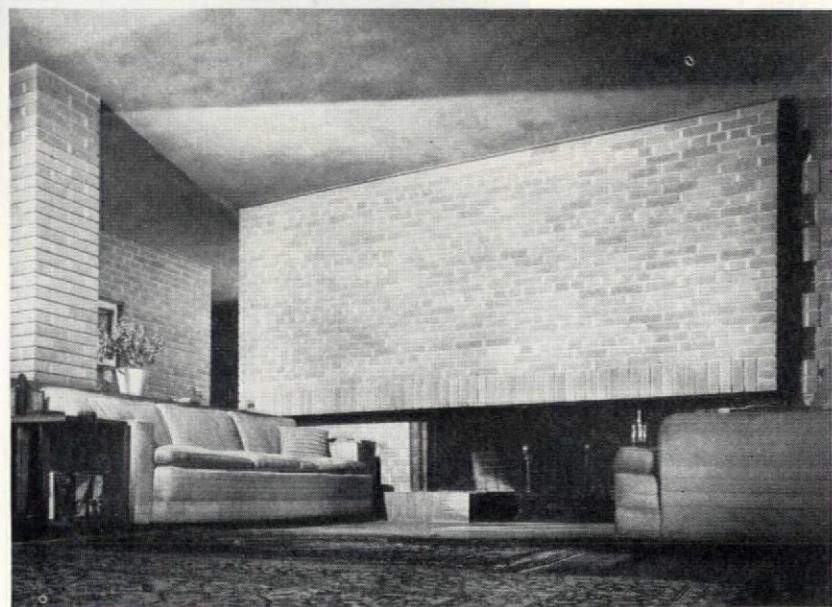
IS SET OFF BY A LOW BUILT-IN SEAT

FORMING A MORE INTIMATE FIRESIDE CONVERSATION CORNER AT ONE END OF THE OPEN ROOM



CONSTRUCTION OUTLINE

FOUNDATION—concrete. **Waterproofing**—Minwax Co. **STRUCTURE**: Exterior walls—brick cavity walls, face brick finish inside and outside; part of second story cypress beveled siding; Vaporseal insulating sheathing, Celotex Corp., studs, Rocklath, U. S. Gypsum Co. and plaster. Floors—concrete or yellow pine. **ROOF**—tar and gravel. Deck—cypress planking. **SHEET METAL WORK**: Flashing—copper. Roof drains—Josam Mfg. Co. **WINDOWS**: Sash—casement. Weatherstripping—bronze, Reese Metal Weather Strip Co. Glass—plate or quality A, double strength. **FLOOR COVERINGS**—carpet, rubber tile or linoleum. **DOORS**—Roddis Lumber & Veneer Co. **HARDWARE**—Yale & Towne Mfg. Co. **BATHROOM FIXTURES**—Kohler Co. Shower—Henry Weis Mfg. Co., Inc. **HEATING**—radiant system. Boiler—Kohler Co. Regulator—Hoffman Specialty Co. Water heater—Bell & Gossett Co.





Julius Shulman, photos

TICKET OFFICE



RAYMOND LOEWY ASSOCIATES, Designers
CHARLES STICKNEY, Structural Engineer
C. L. HESS, General Contractor
MATSON NAVIGATION COMPANY, Owners

One of the most competitive fields in a world to which peace is gradually returning is that of civilian travel. With the airlines challenging both steamship and railroad, a general renovation of equipment, facilities and service is everywhere afoot. The handsome new ticket office of the Matson Line in Los Angeles is an expression of this trend. It is a part of Matson's reconversion program and parallels the complete redesign of three of its liners—the Lurline, Monterey and Mariposa—which is also being done by the Loewy office.

Occupying a strategic position on Los Angeles' "Transportation Row," Matson's new office has a pleasant sales space, clearly visible from the street. This was an important design factor. One quarter of Matson passengers travel on business; although the tourist trade is fairly large, the company hopes to expand it—hence, the corner location and open front design. And because the Matson routes lie exclusively in the South Pacific (see map, p. 89), with tourist advertising geared to this fact, the company wanted a decor reminiscent of the South Seas. This, too, the Loewy office has artfully managed—without resorting to the ubiquitous palm leaf, coconut shell or grass skirt.



Julius Shulman, photos

OPEN FRONT, BROKEN ONLY BY PIERS OF BUILDING ABOVE, INVITES TOURIST DAYDREAMING ABOUT "THE ISLANDS"

Located in an area of Los Angeles where airline, railroad, steamship and travel agencies predominate, the Matson office faces stiff visual competition. To meet this, the designers wisely chose to make the public lounge a display in itself, eliminating signs, placards and the whole paraphernalia of show-window design. Plywood, marble and flat color offer an effective foil for masks and sculpture by Janis Pette.

In addition to this public space—which by simple means manages to achieve quite a bit of atmosphere—the new Matson office provides space for handling passenger traffic, a separate freight department which opens on the side street, and administrative and general operations offices on the second story, including a mezzanine over the entrance.

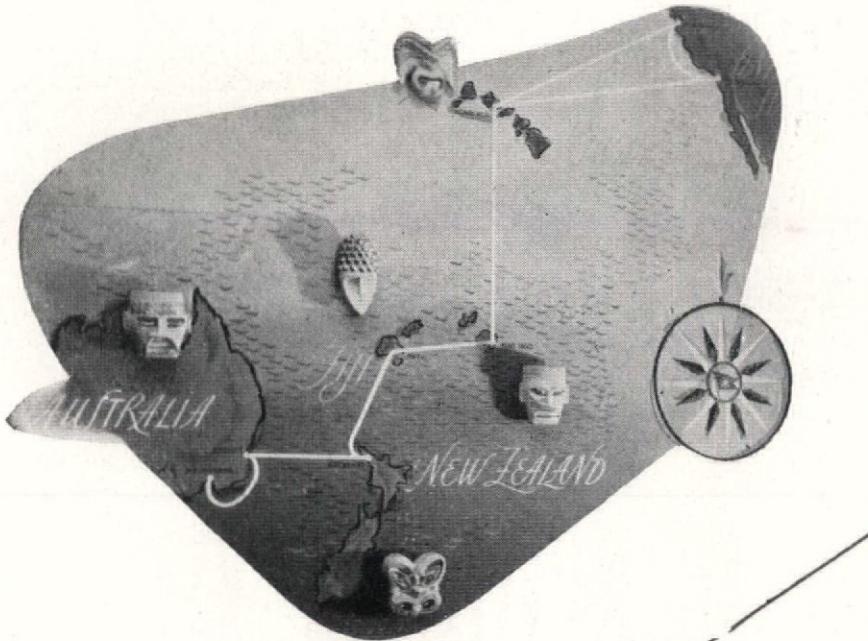
FINISHES AND EQUIPMENT

INTERIOR PARTITIONS—4 in. pressed metal studs, metal lath and plaster. **SOUND INSULATION**: Ceilings—acoustical plaster, Blue Diamond Corp. **WINDOWS**: Glass—Pittsburgh Plate Glass Co. **FLOOR COVERINGS**—asphalt tile, Armstrong Cork Co. **WALL COVERINGS**: Flexwood, U. S. Plywood Co., and bleached Honduras mahogany. **Medallions**—cast plastic hardened plaster. **Exterior wall facing, column base and sign background**—marble, Edward Lohr Co. **FURNISHINGS**: Counter and desk tops—Formica, Formica Insulation Co. **METAL TRIM**—Cochran Izant Co. and The Kawner Co. **HARDWARE**—Schlage Lock Co. and Beverly Hardware Co. **ELECTRICAL INSULATION**: Wiring system—steel tube rigid conduit. **Fixtures**—Claude Seaman Co. **PLUMBING FIXTURES**—American Radiator-Standard Sanitary Corp. **HEATING AND AIR CONDITIONING**: Steam heating system. Air conditioning—Western Air & Refrigeration Co., refrigeration units by Westinghouse Electric & Mfg. Co. **Regulators**—Barber-Colman Co. **NEON SIGN**—Q.R.S. Neon Co.

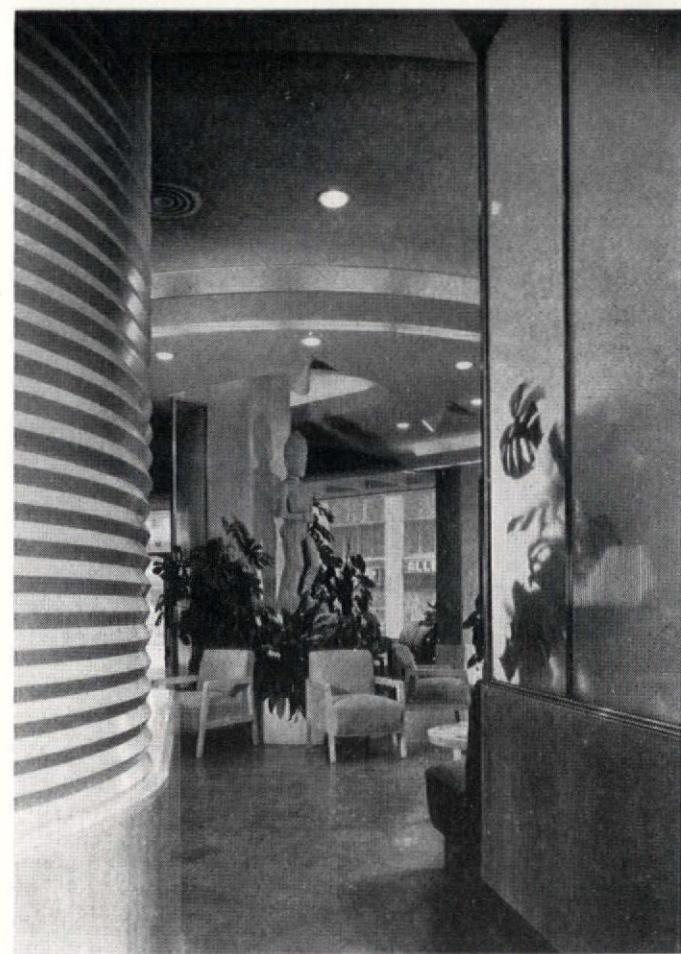
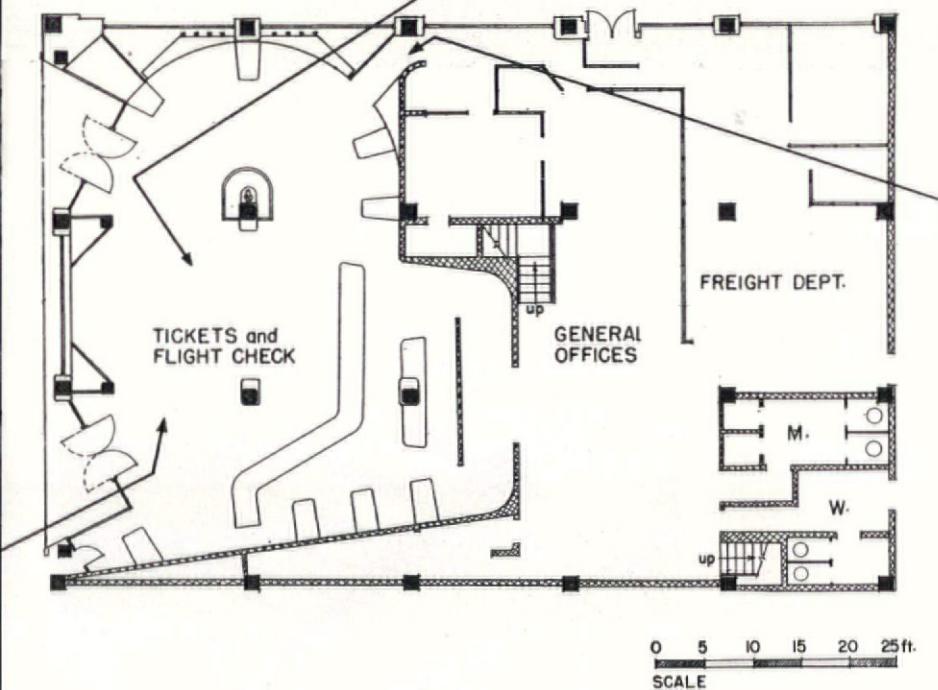
BAYED END OF SALES SPACE SUGGESTS A SHIP'S LOUNGE

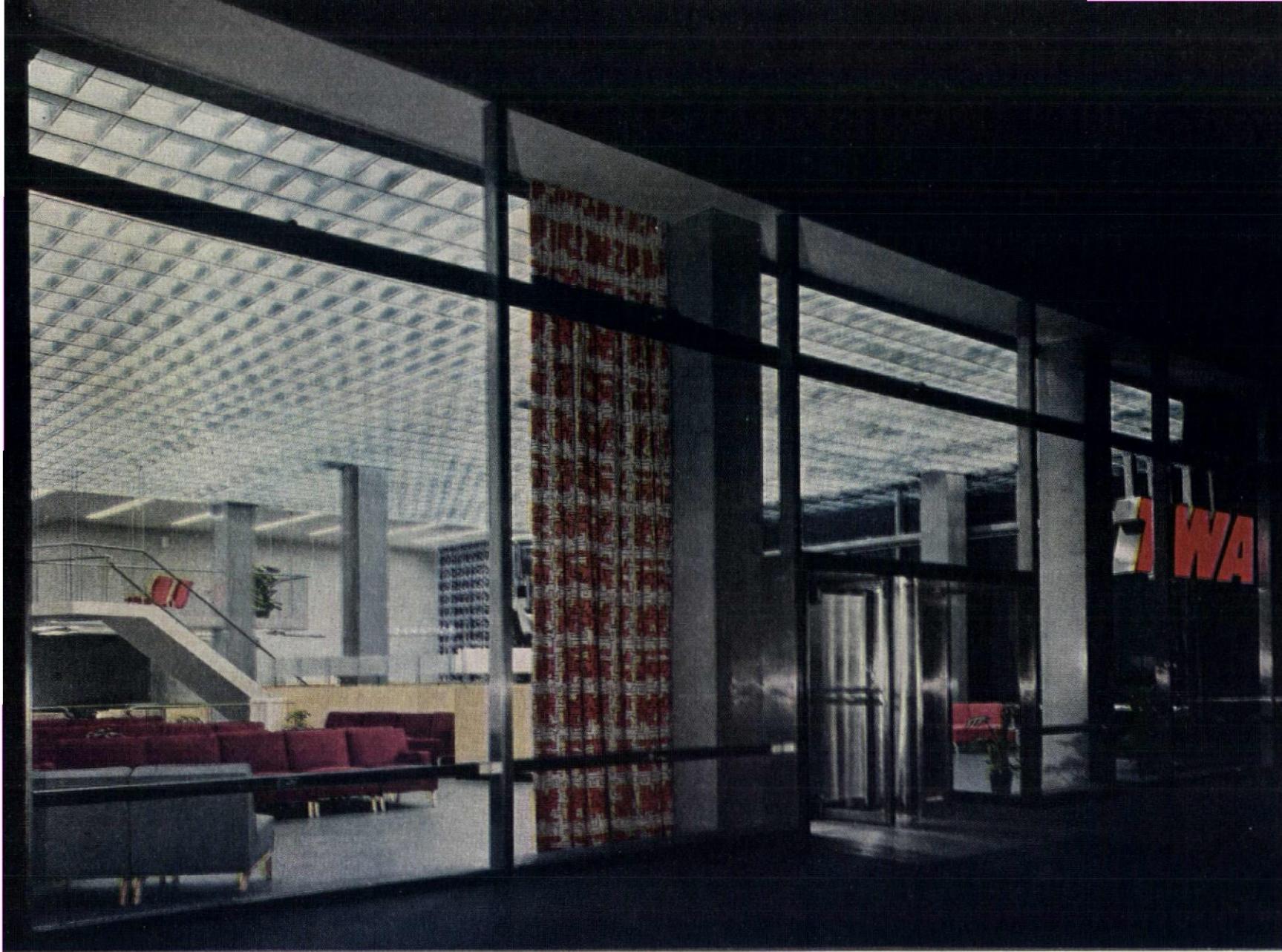


TROPICAL PLANTING are used by Matson Lines to sell passersby the idea of a South Seas cruise



SCREEN BEHIND SALES DESK (ABOVE) CONCEALS RECORD FILE OF EVERY PASSAGE EVER BOOKED, PERMITS QUICK CHECK OF CUSTOMER PREFERENCES, RATES, TRIPS, ETC.





Hedrich-Blessing

TWA TICKET OFFICE

SKIDMORE, OWINGS & MERRILL, Architects

THORVALD NIELSEN, CO., Contractor

TRANS WORLD AIRLINE, Owner

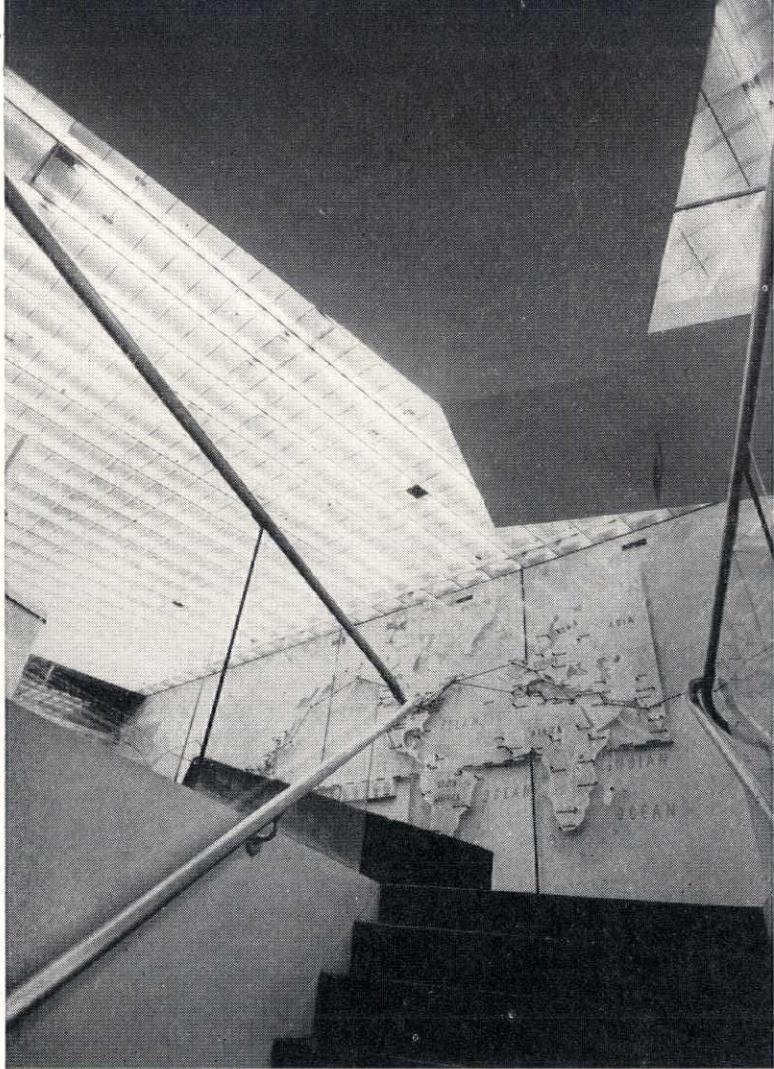
This crossroads air terminal in Chicago's busy loop was built as a combination travel bureau, passenger station and advertising feature, and will also serve as the basic design for TWA offices throughout the country. Its unusual service facilities, inviting lounge and strategic corner location make it an excellent example of the fusion of architecture and display techniques so important in modern commercial design. Most obvious feature is the illuminated eggcrate ceiling which extends throughout the main lobby and, on the south side, beyond the glass wall to provide exterior illumination. A number of devices are used to provide variety of form and texture. At rear, a delicate, glass-railed balcony breaks the smooth wall surface. A huge "map mural" enlivens the side wall and colorful draperies add interest to glazed areas.

CEILING PROJECTS BEYOND BUILDING LINE AT SOUTH

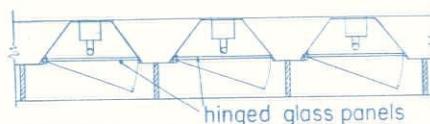
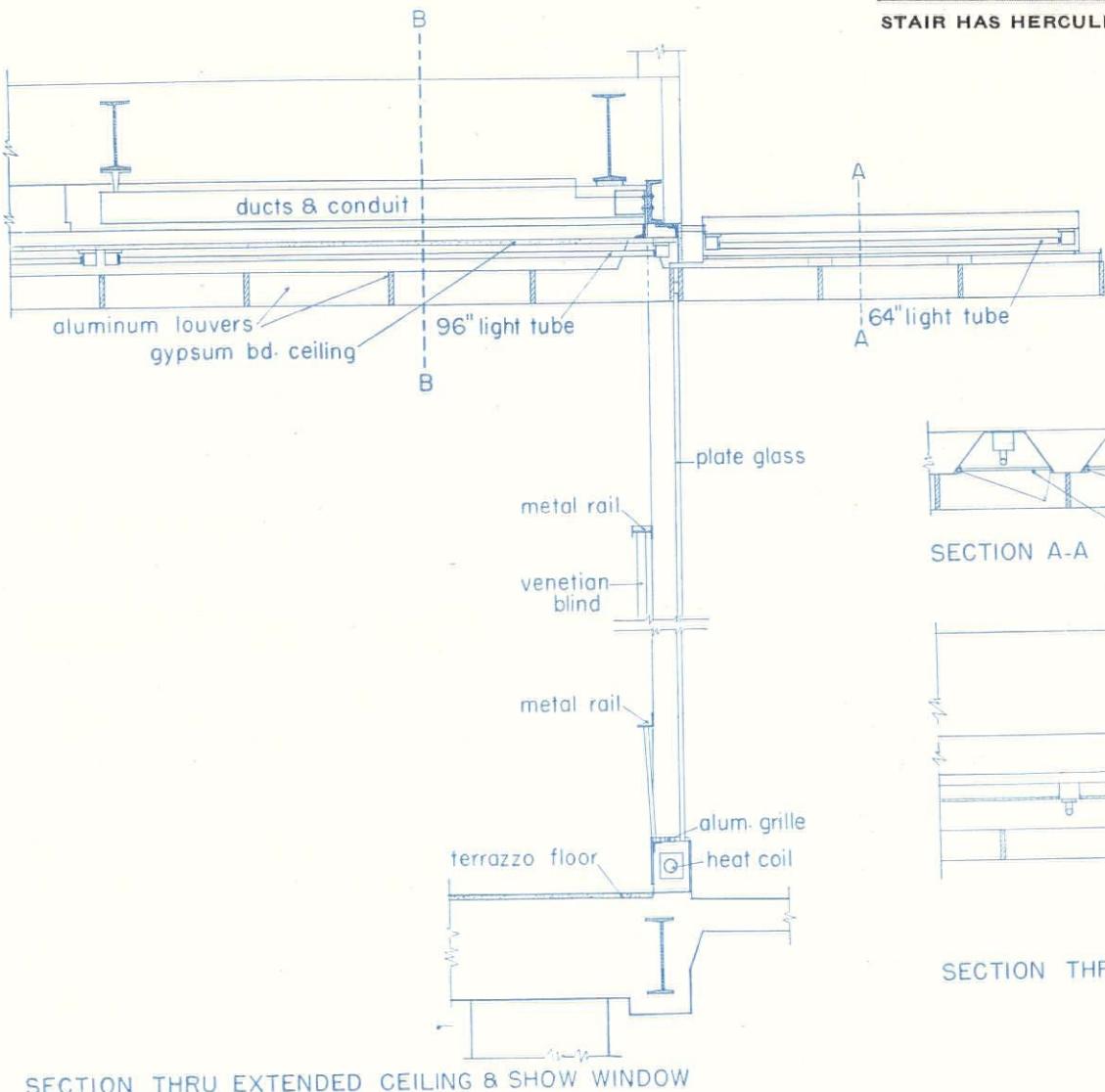


LIGHTING

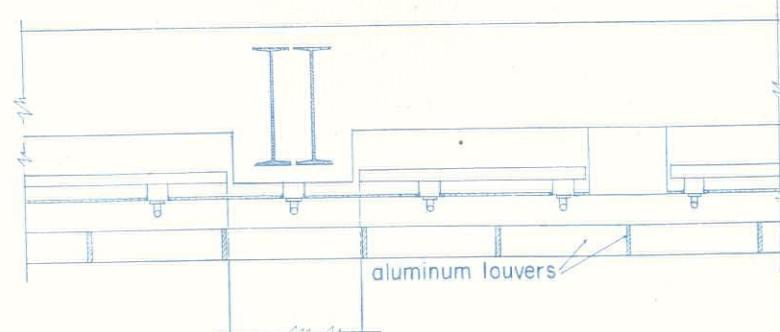
Except above the balcony where a dropped panel creates a variation in plane, the eggcrate ceiling forms a continuous pattern throughout the lounge of the air terminal. Louvers are solid aluminum bars with carefully machined key-type joints to allow for thermal contraction and expansion and with a brushed finish to reduce surface brightness. Fluorescent tubing, installed above the louvers, is attached to a continuous metal wireway set flush with a top panel of gypsum board. Sockets are attached to the wireway which also contains ballasts and circuit wiring. Below the lamps are hinged glass panels for diffusing direct light. Operated at 100 m.a., the tubes provide 35 ft. candles of light 36 in. above floor level in the center of the office, and 41 ft. candles at a height of 14 ft. above the floor. At the ticket counter, with a working angle of 30°, they provide 23 ft. candles.



STAIR HAS HERCULITE RAILING TOPPED BY ALUMINUM HANDRAIL



SECTION A-A

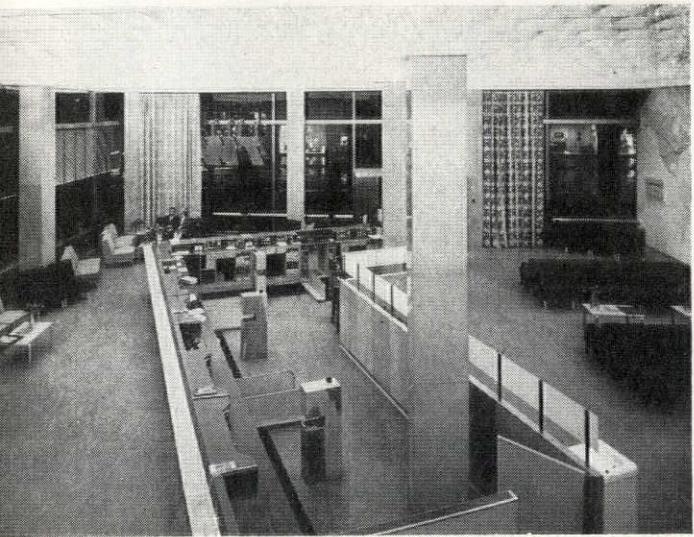


SECTION THRU GIRDER B-B



Scientific routing of passengers and baggage eliminates rush and confusion, helps make travel a pleasure

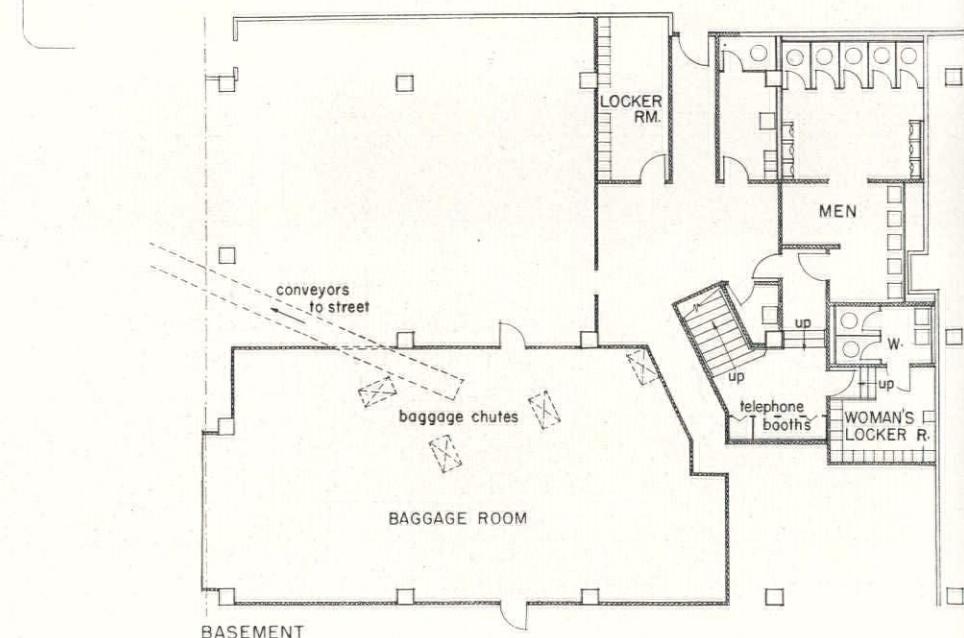
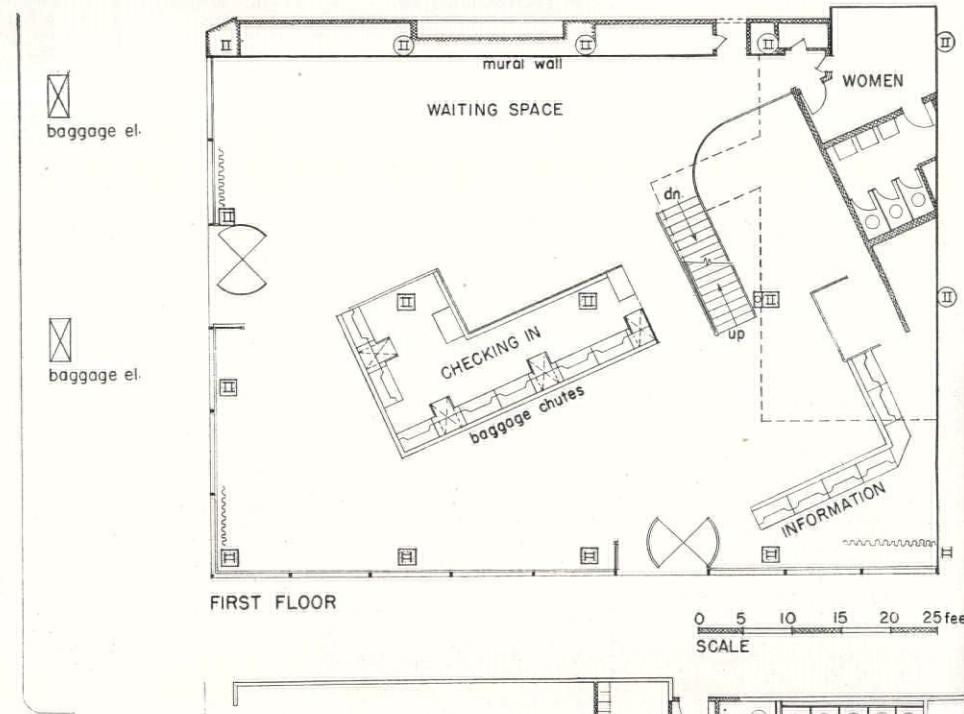
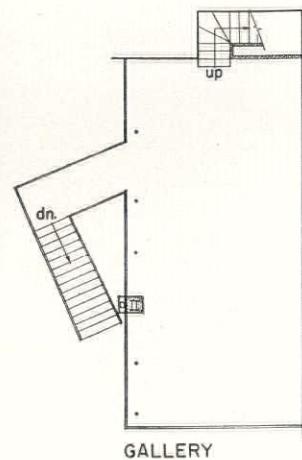
CHECK-IN COUNTERS (BELOW) COMPRIZE FREE-STANDING UNIT ACCESSIBLE FROM ALL SIDES. WAITING SPACE (RIGHT) HAS HOMELIKE SOFAS, MAGAZINE TABLES



Vories Fisher



Hedrich-Blessing

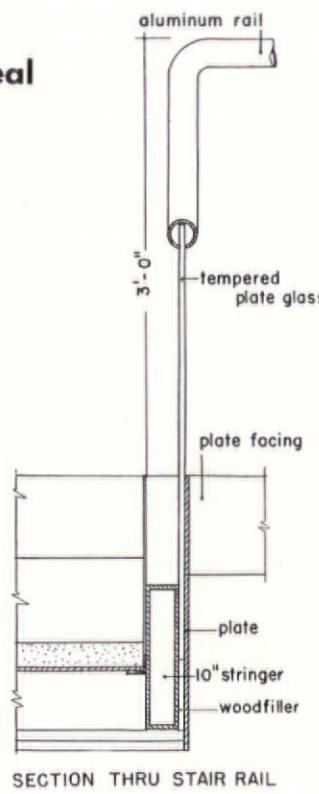


One of the terminal's best features is its simplified system of passenger and baggage service. To eliminate confusion at the ordinary all-in-one ticket counter, different operations have been separated and space allotted each according to need. Two units are included exclusively for handling reservations, two for information and nine for checking passengers in and out. Because traffic flow was an important consideration, these check-in stations have been placed at the lobby side nearest the limousine parking area. They are equipped with a conveyor system which carries baggage quickly to the lower level. Here it is stored until time to load the limousine, then brought up through a sidewalk opening next to the loading curb.

FINISHES AND EQUIPMENT

EXTERIOR WALLS—polished plate glass, Libbey-Owens-Ford Glass Co. FLOORS—terrazzo. FURNISHINGS: Counter tops—Goodrich Tire & Rubber Co. Furniture—Artek-Pascoe and H. G. Knoll Associates. Draperies—Angelo Testa. Mural—Rainey Bennett. ELECTRICAL FIXTURES—General Electric Co. PLUMBING FIXTURES—American Radiator-Standard Sanitary Corp., U. S. Sanitary Specialties Corp. and Crane Co. HEATING AND AIR CONDITIONING—warm air system with filtering, humidification and cooling. Air supply and exhaust units—Clarage Fan Co. Grilles—Waterloo Register Co. Regulators—Johnson Service Co. VENETIAN BLINDS—Wright Venetian Blind Co. CALL SYSTEM—Illinois Bell Telephone Co.

rather than an ordeal



STAIRS LEAD UP TO BALCONY, DOWN TO POWDER AND LOCKER ROOMS

Hedrich-Blessing photos

USE OF SPACED TROFFERS IN BALCONY CEILING EQUATES LIGHT INTENSITY TO LOWER LOBBY, ILLUMINATED BY MASS OF FIXTURES



MILL GUEST HOUSE

A friendly addition to an industrial plant proves a real asset.

EATON W. TARBELL
& ASSOCIATES, Architects
T. W. CUNNINGHAM, INC.,
Contractor

Since midsummer 1946, the Eastern Corporation, maker of writing papers in South Brewer, Maine, has had more than 200 enthusiastic three-day guests in this efficient house, and a total of 1,200 visitors are expected in 1947. The corporation decided to construct such a building to assure its visitors fine accommodations and meals, to save time in commuting from hotels in Bangor and to coordinate the many activities required by a short stay. In addition, the building serves occasional plant conferences and parties.

When the corporation approached Architect Eaton W. Tarbell for designs, the usual Maine log cabin seemed the only possible conception. But Tarbell convinced the owners that the warmth of the log cabin could be combined with the efficiency of modern design to

make a house far more adaptable to extremes of climate and the needs of the corporation. The president of the Eastern Corporation says, "We find the building extremely satisfactory, and look forward to its successful operation as a powerful instrument of service and good will over future years."

The guest house is placed at the top of a hill above the picturesque Penobscot River, and oriented so that the windows of the living-dining area open to the southwest toward a pleasant view of the paper mill. Station wagons bearing guests from plane or train are driven directly into a garage below the main floor of the house, where they can alight in shelter and ascend by an interior stair. Mill personnel enter by the door off the terrace, near a small parking area.

P. A. Dearborn, photos



HIGH SHED ROOF OF LIVING-DINING AREA IS FLANKED BY FLAT ROOFS OF BEDROOM WINGS. BROAD CHIMNEY SUGGESTS HOSPITALITY

MILL BY RIVER DOMINATES VIEW BOTH WINTER...

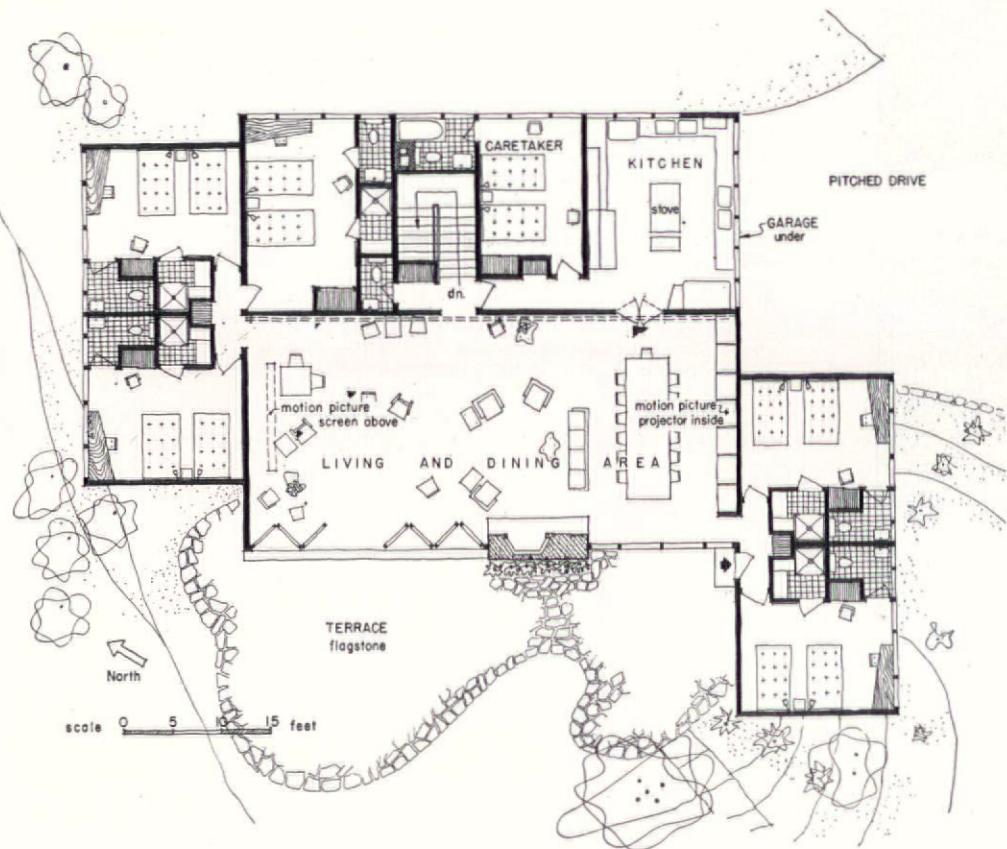


... AND SUMMER, WHEN GLASS DOORS FOLD BACK



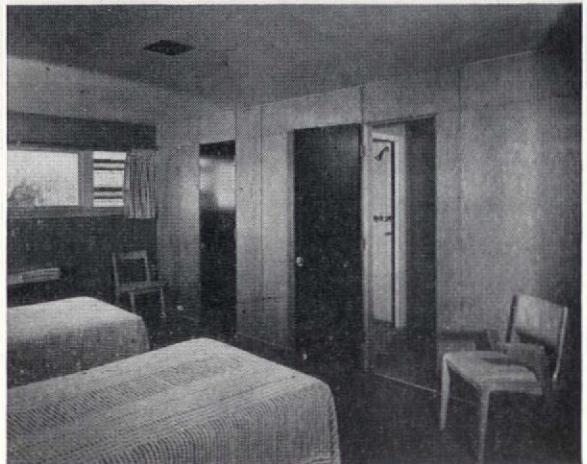


INTERIOR OF LIVING-DINING AREA CAN BE REARRANGED FOR VARIOUS FUNCTIONS, FROM QUIET EVENING ABOUT FIRE TO BIG RECEPTIONS

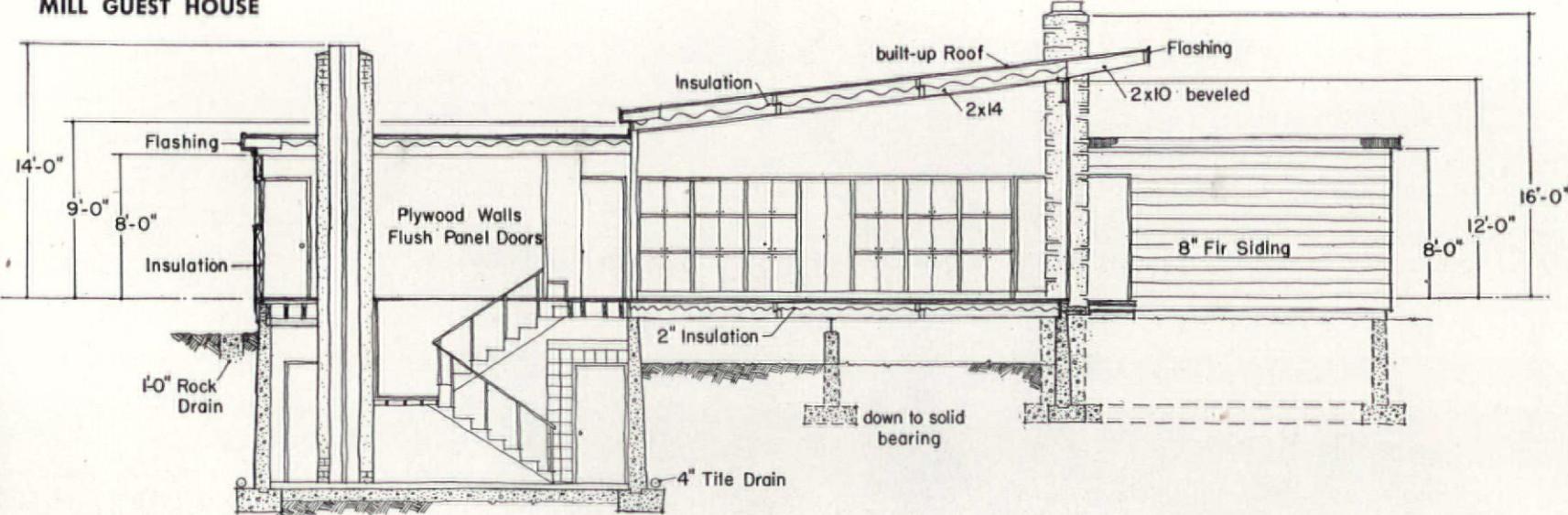


A large central room is adaptable to the many types of entertainment required. Opening off this room, near the end usually used for dining, is the kitchen, equipped with deep-freeze units and adjacent to the caretaker's suite. Guests are accommodated in two wings of two double bedrooms each. As bedrooms often may have to be shared by strangers, toilet and lavatory facilities are placed in a separate room from the shower, to provide privacy and double use.

EACH GUEST ROOM HAS A SEPARATE SHOWER



MILL GUEST HOUSE



WALL CABINETS AT END HOUSE DISHES AND A MOVIE PROJECTOR



THREE TYPES OF WINDOWS USED IN BUILDING FLANK FIREPLACE



The structure of the guest house consists of reinforced concrete foundations supporting balloon framing in spruce, covered on the exterior by pine sheathing, building paper and fir siding, and on the interior by plywood, gypsum board or plaster. Lally columns and steel beams are used only on the longer structural spans. All ceilings are composed of asbestos acoustical units, while the main floors are of cork tiles.

Most of the chairs and other furniture are by Hans Knoll Associates. Architect Tarbell designed the large dining table and the built-in combination desk and chest-of-drawers in the bedrooms. A feature is made of table settings in pottery from the Powantrees Kiln, Blue Hill, Maine, in yellow, oyster white, and duckshead colors.

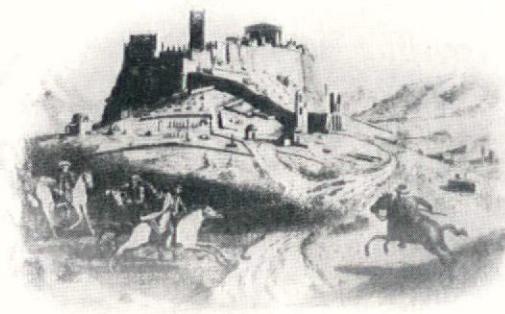
CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—fir, 15 lb. paper, pine sheathing, spruce framing; interior—plywood or recessed edged gypsum board or plaster. **ROOF:** Flexitone built-up, Johns-Manville. **SHEET METAL WORK:** lead coated copper flashing. **INSULATION:** Walls and ceiling—insulating wool, U. S. Gypsum Co. Ground floor—Balsam wool, Wood Conversion Co. Sound insulation—Johns-Manville. **WINDOWS:** Sash—wood. Glass—double strength. Glass blocks—Pittsburgh-Corning Corp. **FLOOR COVERINGS:** cork tile, ceramic tile or Kentile, David E. Kennedy. **FURNISHINGS:** Chairs and tables—H. G. Knoll Associates; Built-in—by architects. **DOORS:** Roddis Lumber & Veneer Co. Garage door—The Kawneer Co. **HARDWARE:** Richards-Wilcox Mfg. Co. **PAINTS:** L. Sonnenborn Co. **ELECTRICAL FIXTURES:** Moe Bridges, Holophane Co. and Swivelier Co. **HEATING:** forced warm air, Johnston Service Corp.

HOUSES USA

A brief review of the development of domestic architecture in America.

Part II, 1820-1946, the Revivals and Eclecticism



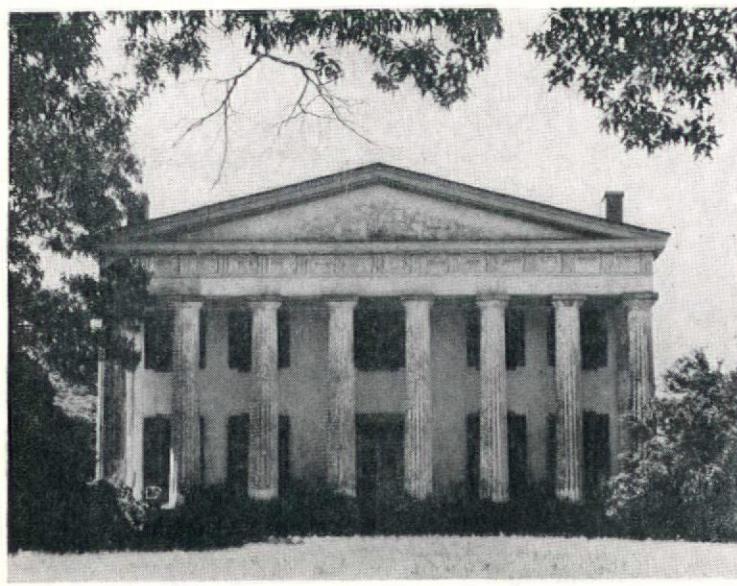
GREEK REVIVAL, 1820-1860 A NATION-WIDE STYLE

If the architectural forms of the Roman republic had seemed to Jefferson and Washington the ideal expression for the new country in 1790, the more serene Greek orders seemed even more appropriate to builders a scant generation later. The Greek Revival in the United States was a manifestation of the romantic enthusiasm for all things Greek which was sweeping the western world at the time. Architects and laymen alike were fired with sympathy for the contemporary Greek struggle for independence. The architectural forms of ancient Greece, which were available to them through the beautifully engraved measured drawings of the English archaeologists Stuart and Revett, took on symbolic as well as esthetic importance.

Starting in the northeastern cities, the movement achieved extraordinary breadth and vitality. All over the expanding country, in newly founded towns (which often were given Greek names), wooden temples rose beside the pioneers' first log cabins. Books on architecture, some published in America, spread far and wide not only the archaeologically correct Greek orders, but details which had been freely and creatively interpreted for contemporary use in wood. And local builders made their own reinterpretations. The temple form in houses was comparatively rare; more often, Greek porticos and decorative details appeared on houses which took the form traditional in the region or were planned with a new freedom to serve the particular needs of the family.

1.

A. L. Dimenti



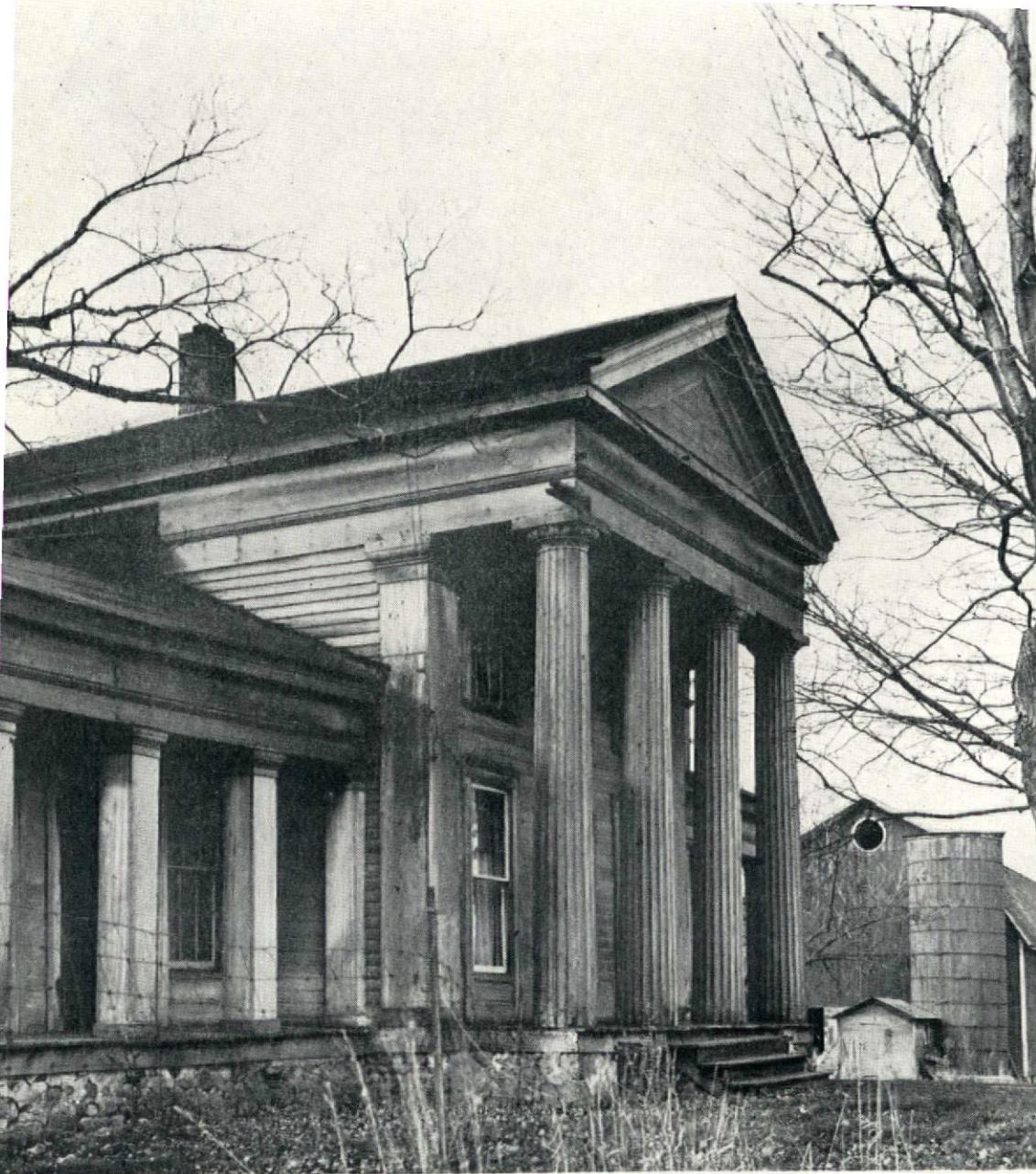
2.

I. T. Frary



In the South, the shadows caused by an archaeologically correct portico, such as the Doric one at Berry Hill Plantation (1), Virginia, 1835-1840, were welcomed in the hot summers. But often in the cooler East and Midwest, more light was obtained by placing the house wall directly behind the columns in the manner of this girls' school (2) built in Norwalk, Ohio in 1848.

Kosti Ruohoma



3.

The same carpenters who built this prosperous Michigan farmer's barns in 1840 made use of drawings in an architects' guide published in New York in 1833 to give his house (3) the prevailing Greek character. A freer interpretation and adaptation is seen in Dunlieth (6), Natchez, Mississippi, 1850, where a colonnade in the "American Order" is carried entirely about the house to support a second-floor gallery. Smaller houses, too, sought the dignity of Greece; the builders of traditional frame houses often turned the gable end to the street and added a portico, as houses in Lowell, Massachusetts (4), and Marshall, Michigan (5), demonstrate.

4.

M. Noyes



5.

T. Hamlin



6.

Kosti Ruohoma





7.

M. Noyes



8.

B. Abbott, Museum of City of New York

City houses of masonry were given a restrained dignity with Greek Revival detail, either as a free-standing mansion like the one (7) in Lowell, Massachusetts, 1843, or as a standardized row like those (8) in Washington Square, New York City. Cast iron fashioned in handsome classical patterns became a decorative adjunct of the style.

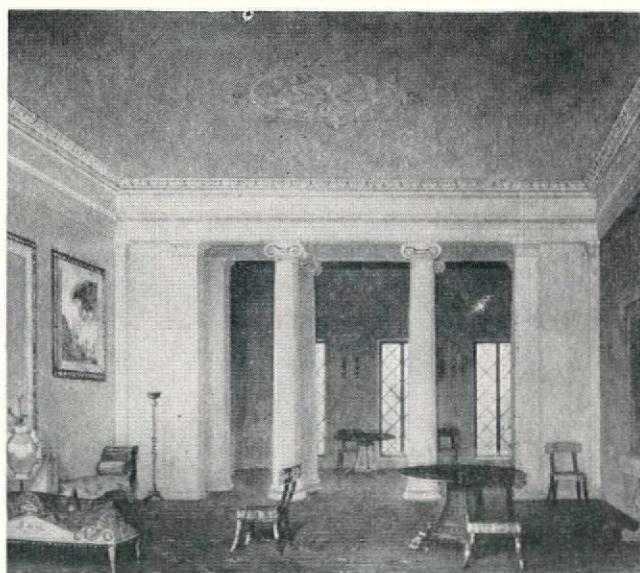
9.

Walter Sanders



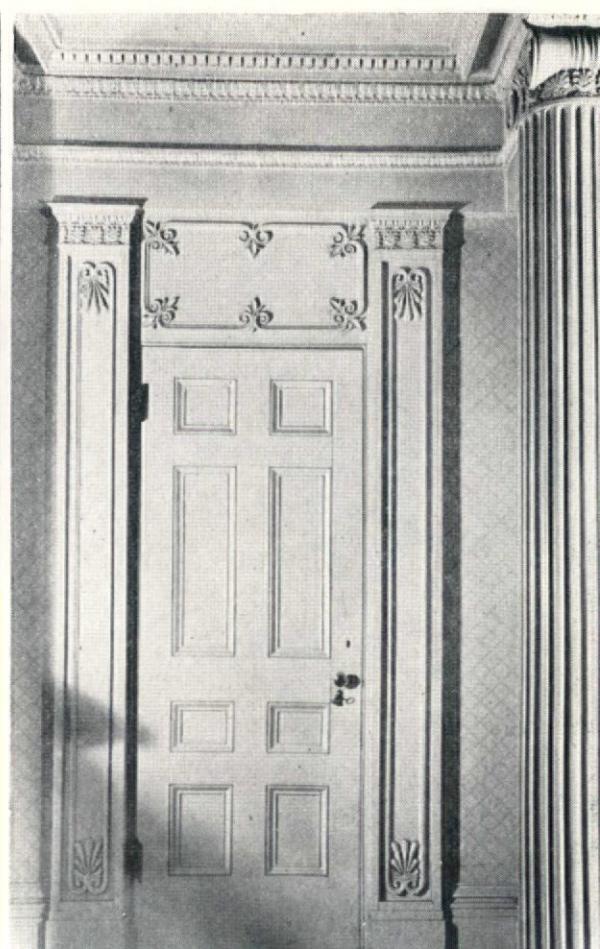
10.

N.Y. Hist. Soc.



11.

Kosti Ruohoma



Interiors, too, attempted to recreate the ancient world. Sometimes, as at the Hermitage (9), Andrew Jackson's home in Nashville, Tennessee, 1835, the result was a quaint blending of native ideas and published suggestions, while, in some cases, careful studies (10) by a professional designer like A. J. Davis resulted in interior detail (11) of surprising freshness.

GOTHIC REVIVAL, 1830-1860

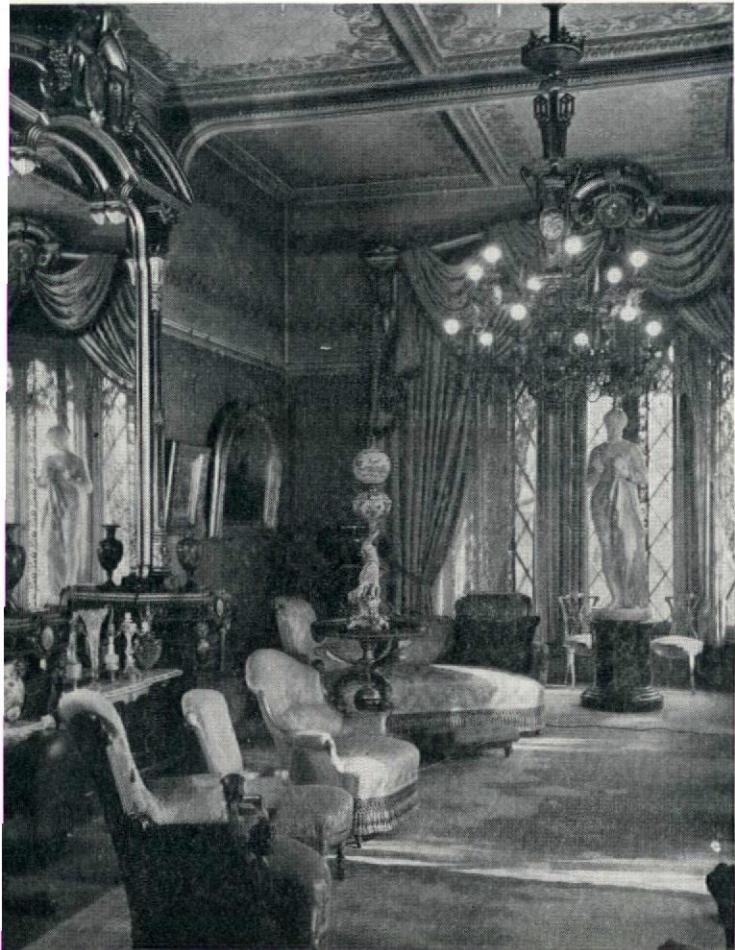


While Greek forms were becoming increasingly popular, another romantic movement, the Gothic Revival, began to affect the architectural scene. Starting in eighteenth century England under the patronage of Horace Walpole, the imitation of Gothic forms was a frankly literary, emotional and non-structural movement, seeking above all to be picturesque. As it was later introduced to the United States, it became even more superficial. Only in church architecture was there any real pretension to archaeological correctness and even there it was considered as decoration, unrelated to structure. The Gothic style, however, has continued to be considered suitable for American churches and colleges ever since.

In domestic architecture, few attempts were made even to imitate stone. Gothic detail was freely translated into the ubiquitous wood, sometimes with charm equalled only by its naiveté. Based on English prototypes, Gothic villas and cottages took "picturesque" forms, topped by high pitched roofs, their gables decorated with intricately carved openwork bargeboards. Or the newly fashionable ornament was applied to traditional rectangular house forms, somewhat in the manner of a slipcover.

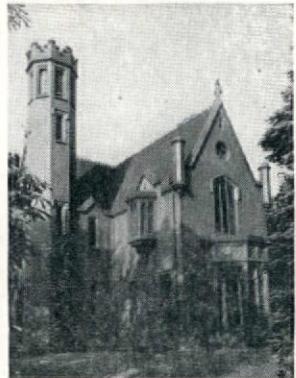
1.

Kosti Ruohoma



2.

Kosti Ruohoma



The house in Bridgeport, Connecticut, shown at the left (1) and (2), was designed in 1846 by A. J. Davis, whose drawing for a Greek Revival interior of about the same date appeared on the previous page. Davis, like most of the architects of his time, worked in several historic styles with equal facility. The Gothic detail on Wardhoven Hall (3) in Watervliet, New York, is comparatively correct for the 1840's.

3.

M. Bourke-White





4. Walker Evans

5.



In the cities, the coming of the power band-saw did much to cover whole blocks with repetitious, vaguely Gothic ornament, such as the bargeboards on these wooden houses (4) in Boston. In the smaller towns, carpenters copied by hand the designs suggested in "builders' guides," as typified by the villa at right (5) built on the banks of the Hudson in 1844. A sea captain's Colonial house (6) was given a fashionable Gothic icing in 1840, perhaps inspired by engravings, which the owner is known to have possessed, of Milan Cathedral.

Kosti Ruohoma

6.

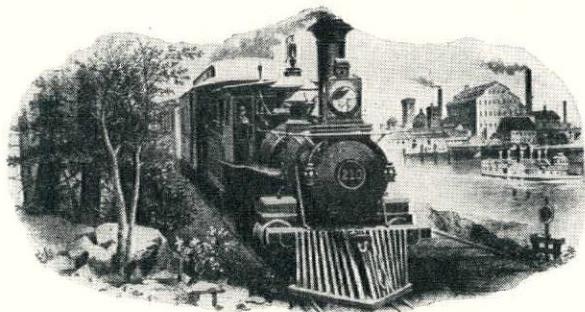


Maine Development Comm.

ECLECTICISM, 1850-1946—THE PARADE OF STYLES

The same archaeological studies and the same romantic longing for ancient or exotic things which had been responsible for the Greek and Gothic revivals lead inevitably to wider selections from past glories. The study of older artistic monuments did not stop with Greece and Rome. With the development of the camera, actual photographs were added to the earlier engravings as sources of information about distant places. Trains and steamships had made travel both feasible and fashionable.

New towns and new fortunes sprouted, rootless, overnight in the violent industrial expansion. While slums increased, the newly rich demanded solidly imposing structures. Their architects, most of whom had studied or traveled abroad, drew sterile copies of ancient monuments or decorated buildings with meaningless "correct" details. Fashion followed or intermixed with fashion. Even today, most Americans live in houses which, however full of ingenious modern conveniences, masquerade as Colonial or Regency or Tudor or Spanish.



Kosti Ruohoma



1.

Following close on the heels of the Gothic Revival came what was called the "Italian" style, wanly imitating the villa designs of a more vigorous age in Italy. Here (1) Architect Robert Sikes tried to bring Milanese warmth to Springfield, Massachusetts in 1850. Typical of the disintegration of taste are these before-and-after drawings (2), issued in 1878 to show how a Greek Revival house might be remodeled to obtain "a little variety and piquancy." In the 1880's, French Romanesque served as the inspiration of talented H. H. Richardson, whose work was imitated in turn by lesser designers executing such things as the row of "Richardson Romanesque" houses (3) shown below. (The far more important relation of Richardson to modern architecture will be discussed in Part III of this review.)

3.

Lee—FSA



2.



4.



5.



6.

Kosti Ruohoma

In 1882, fashionable architects McKim, Mead & White built Southside mansion (4) in swank Newport, Rhode Island, using a popular mode of the day, a mixture labeled "Queen Anne," based vaguely on English country houses but having little connection with the fertile queen. At the same time, wealthy clients in Chicago commissioned Cudell & Blumenthal to do this house (5) in the more ostentatious Second Empire, or Mansard, style, typified by decorative motifs of the Louis XIV and XV periods in a coarse scale.

7.

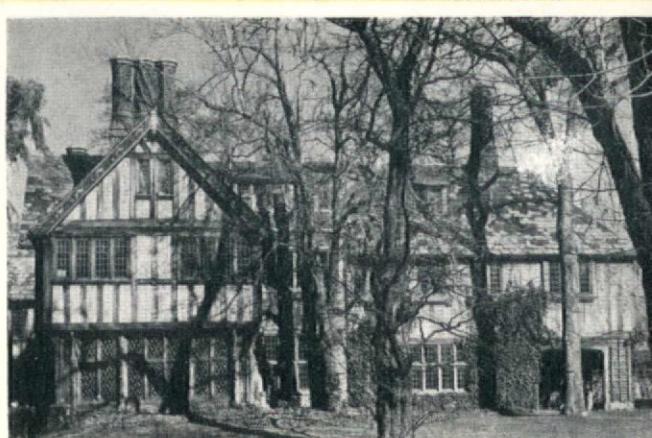
B. Hoffman



Richard Morris Hunt used his French training to design this fairy tale chateau (6) in the manner of Francis I for George Vanderbilt near Asheville, North Carolina, 1890-95. McKim, Mead & White again were at work in Newport, Rhode Island, in 1902, this time doing Rosecliff (7) in the monumental classicism popularized by the Chicago World's Fair of 1893. By 1917, wealthy preference had shifted to the Elizabethan manor house, well illustrated by this example (8) in Tarrytown, New York, by John Russell Pope.

8.

Kosti Ruohoma



9.

While the great mansions were leading the Parade of Styles in the late 19th and early 20th centuries, most American streets looked like the one at the left (9)—rows of houses with porches, all comparatively non-stylistic but with consistently classic detail. Though big houses were built less and less as the 20th century advanced, a great many homes of medium scale appeared, each copied from some former style, such as this Spanish adaptation (10) of about 1930 in California.



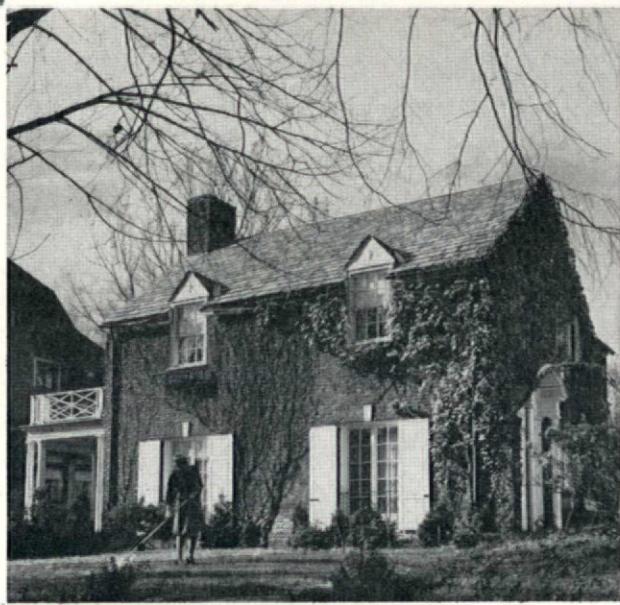
10.



11.

But by far the most popular of the later eclectic styles in America has been the "Colonial," more or less inspired by nostalgia for the simple dignity of the 18th century. This house (11), built by D. J. Baum in 1922 in Syracuse, New York, is typical.

Kosti Ruohoma



12.

The Colonial vogue included restoration of actual 18th century structures, such as the house (12) at the left, with "authentic" additions of 1930 to a basically old central mass. Recent speculative building has dramatically shown the shallowness of eclectic design by placing false fronts in varying styles on row houses of identical plans. A good example is this group (13) in San Francisco, California, of about 1940. Take your choice, left to right, of Georgian, Elizabethan, Spanish, California ranch or Regency.

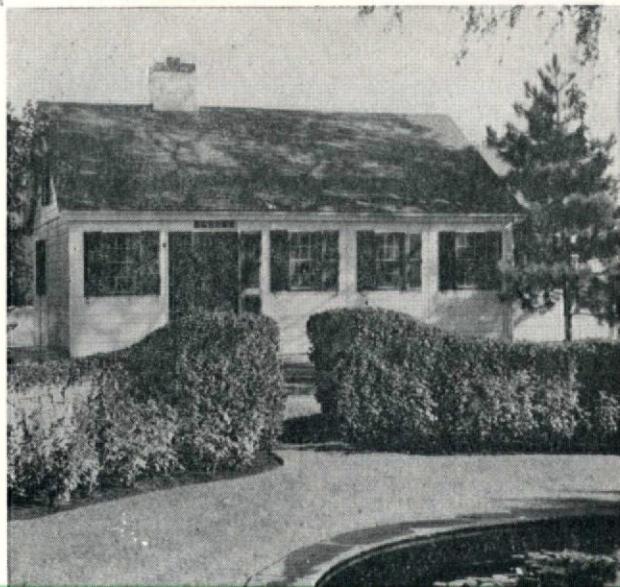
13.

Roger Sturtevant



14.

And in 1946, with every effort being made to reduce the huge postwar housing shortage by building rapidly and efficiently, eclecticism still held sway. This prefabricated house (14), supposedly designed for mass production, disguises its modern panel construction in order to resemble as closely as possible an 18th century Cape Cod cottage.



GREATEST HOUSE-BUILDING SHOW ON EARTH

runs with the precise timing of a four-ring circus, features 10,000 houses a year in a score of West Coast subdivisions.

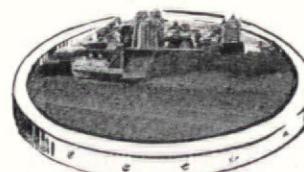
Kaiser and Burns prefabricate a standard house chassis, finish it in the field with myriad variations, sell it with brassy fanfare.

Because Kaiser Community Homes can produce only 10,000 small houses this year against a national need for millions, Board Chairman Henry J. Kaiser tartly labels the operation a "pitiful" show. But 10,000 units a year by all other yardsticks makes Kaiser's house-building show the world's biggest. Several new companies are predicting larger annual production records, but they are still tooling up, still have many ifs and buts between their hopes and houses. KCH has been turning out 20 houses a day for months and is ready to double the output when material supplies permit. Even today, KCH is receiving lumber by the trainload—and trains carrying KCH's precast, prefinished lumber pack 45,000 bd. ft. per car. Plywood, too, is delivered by the trainload—more than 40,000 sq. ft. per day are fed into the six assembly lines. Last month's purchase of 50,000 sq. yds. of carpet was a whopper for the seller, but it kept KCH in floor finishes for less than a week.

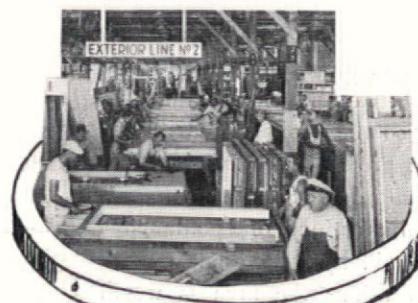
Kaiser Community Homes concept of housing varies from the usual pattern, offers many of the industry's neophytes lessons worth learning. In the first place, its end-product is a part of a community rather than just a house. And KCH—guided by its admittedly cautious estimate of public taste—builds its communities with houses of conventional appearance, houses which meet the public's prime requisite of individuality and avoid its fear of "a prefabricated look." The entire KCH operation is based on volume sales through an avoidance of all possible causes of sales resistance, and product design and production are affected accordingly.

Since KCH's biggest raw material is land and since its one completely standardized house chassis is disguised with infinite variations, production is roughly a 50-50 factory-field operation. One other reason for KCH's middle-of-the-road house-building technique is the background of the men who head it. President Fritz B. Burns had long been building conventionally in communities of standardized but varied houses—prototypes of the KCH developments. In 1945 Industrialist Henry Kaiser listened with interest to descriptions of these communities by Burns' enthusiastic public relations and research director, Joseph H. Schulte, then visited the latest group of Burns' 7,000 houses. Results: 1) a corporation capitalized at \$6 million with stock split equally between Kaiser and Burns; 2) a goal of 100,000 houses a year through national collaboration with big local builders; 3) completion of plant No. 1 in September at a cost of \$750,000; 4) delivery to date of 2,000 houses to KCH projects within overnight trucking distance; and 5) conventional construction of hundreds more in more distant projects.

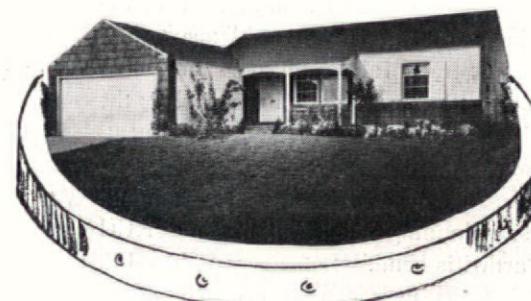
If the flow of materials improves as much as experts predict, Kaiser Community Homes should easily reach its goal of 10,000 units this year. (Otherwise, production will be closer to 6,000.) It has the necessary land, the production facilities and know-how, a product designed to sell, an eager market, and, if this market should soften, a merchandising technique to stiffen it. With one foot to the left, the other to the right of house-building's center line, KCH stands ready to give extremists on either side a real run for their money.



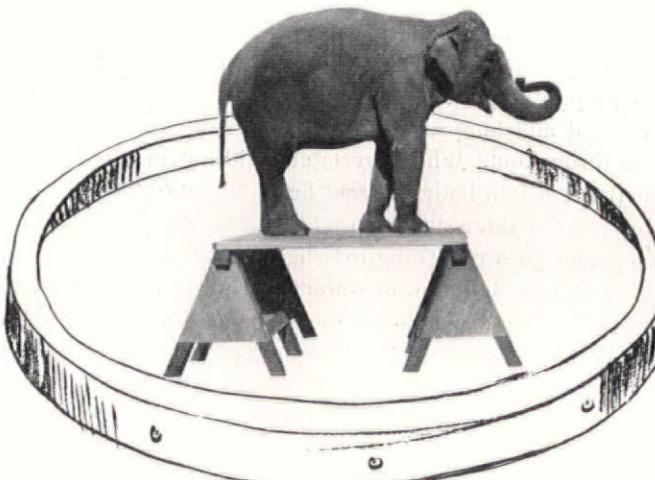
LAND—A huge inventory makes room for mass production.



PRODUCTION—Consumer preference is met by combination factory-field operation.



PRODUCT DESIGN—Variable wrappings disguise completely standardized chassis.



MERCHANDISING—Showmanship bolsters the self-selling design.

LAND

LAND, expertly picked in big parcels well in advance, is the foundation of the Kaiser-Burns operation—a \$4 million

Fabricating a house the KCH way is a matter of hours; completing it is a matter of one or two months; but, despite the use of high-powered buying and earth-moving machinery, acquiring and developing the land takes the best part of a year. And, as outlined in the time table to the right, there appears to be no means for short-cutting this operation. Land is basic to the entire program, for, unlike most prefabricators who limit their interest to house parts, KCH builds complete houses in complete communities. To make room for the production of 20-40 houses a day, Burns, as head of the land procurement division, must buy an average of about 120 acres a month—1,440 a year. For this year's 10,000 houses he has already invested about \$4 million in raw West Coast land.

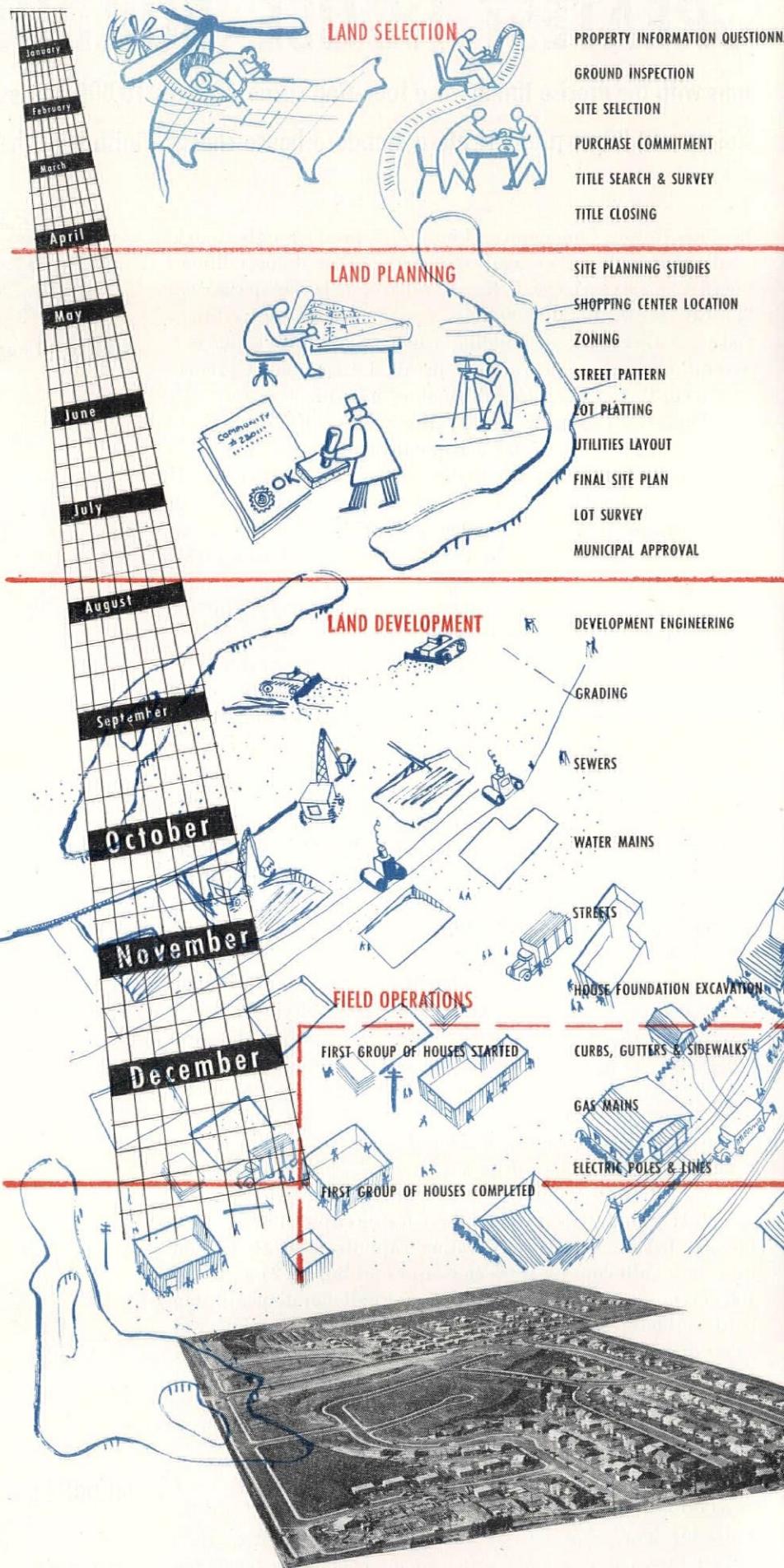
To the owners of suitable land, Burns sends an 11-page form, whose 500-odd blanks make a piker of most government questionnaires. From this information, he can tell whether the tract merits ground reconnaissance. If so, he looks primarily for these two favorable characteristics: proximity to existing suburban development ("distance is judged by the amount of intervening vacant territory") and indications of spontaneous activity—a few new houses being built by individuals ("I do not like to be the only one who thinks the area is worth while."). He also looks only at big parcels. The smallest project to date accommodates 182 lots; the largest, 4,407; the average, about 900.

Unless limited by existing plats or streets, subdivision of the tracts is generally imaginative, has little resemblance to the traditional gridiron pattern. Streets follow contours and focus the traffic flow on the shopping center, location of which is the first step in land planning (see shopping center supplement, p. 154). To give motorists more room at corners and to broaden the front of wedge-shaped lots, street curves are made extra wide, a sensible site-planning trick which some KCH wag has nicknamed the "arthritis bend." Lots average 60 x 100 ft., the largest size which KCH feels can be properly maintained and improved by its average purchaser.

Actual site development begins two or three months before the first foundation is scheduled and continues until the first group of houses is completed. Following a "mass diagram" which shows the disposition of each cubic yard of cutting and filling, graders prepare the site. All fills are laid down in 6 in. layers, watered and tamped, thus permitting use of normal foundations throughout. When streets are laid out in valleys, a level shelf is cut into both adjacent banks about 6½ ft. above the curb to receive these standardized foundations.

If site development goes according to schedule, all grading and excavation and the installation of sewers and water mains are completed by the time the first group of foundations are poured. The other utilities are installed as the houses go up. Particularly noteworthy, the 4-ft. sidewalks are at the street, separated by a slope-faced curb. This combination facilitates construction, eliminates cutting the curb for driveways, gives the houses bigger front yards, gives the street a wider appearance and in damp weather permits motorists to park and step out of their cars anywhere without getting their feet wet.

Land development alone costs KCH as much as \$800 per lot—a figure which prompts F. W. Marlow, head of KCH's land development division, to complain of the high standards and rigid requirements for street improvements as one of the major stumbling blocks in the way of low cost housing.

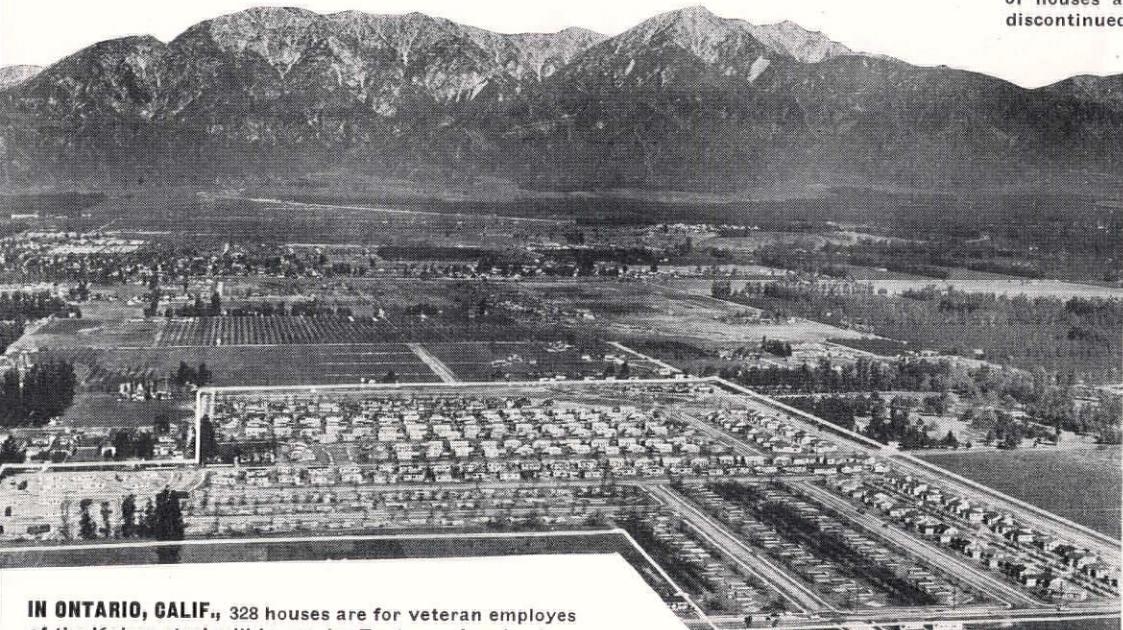


WEST SIDE TERRACE In Los Angeles had only one finished house—a furnished model—when this picture was taken Oct. 10. Now it is completely developed with 182 houses, all sold. Note "arthritis bend."

backlog keeps their land planners and developers well ahead of house production.



ONE OF MANY LOS ANGELES PROJECTS. Westchester is the biggest. Its 607 completed houses will be followed by 3,800 more, but will barely dent the County's 100,000 unit housing shortage. Note pole lines at rear of houses and paved driveways. Small two-bedroom house has been discontinued; only one in ten wanted it.



IN ONTARIO, CALIF., 328 houses are for veteran employees of the Kaiser steel mill in nearby Fontana. Land values in a new area are often set by selling a small portion of the subdivision lot by lot to private builders.



IN A SAN JOSE ORCHARD are 173 houses under construction, room for 627 more. These houses are completely site-fabricated but are otherwise the same as the factory-made units. Note staggered building line.

PRODUCTION

a rationalization of industrial and handicraft techniques, is divided between factory and field.

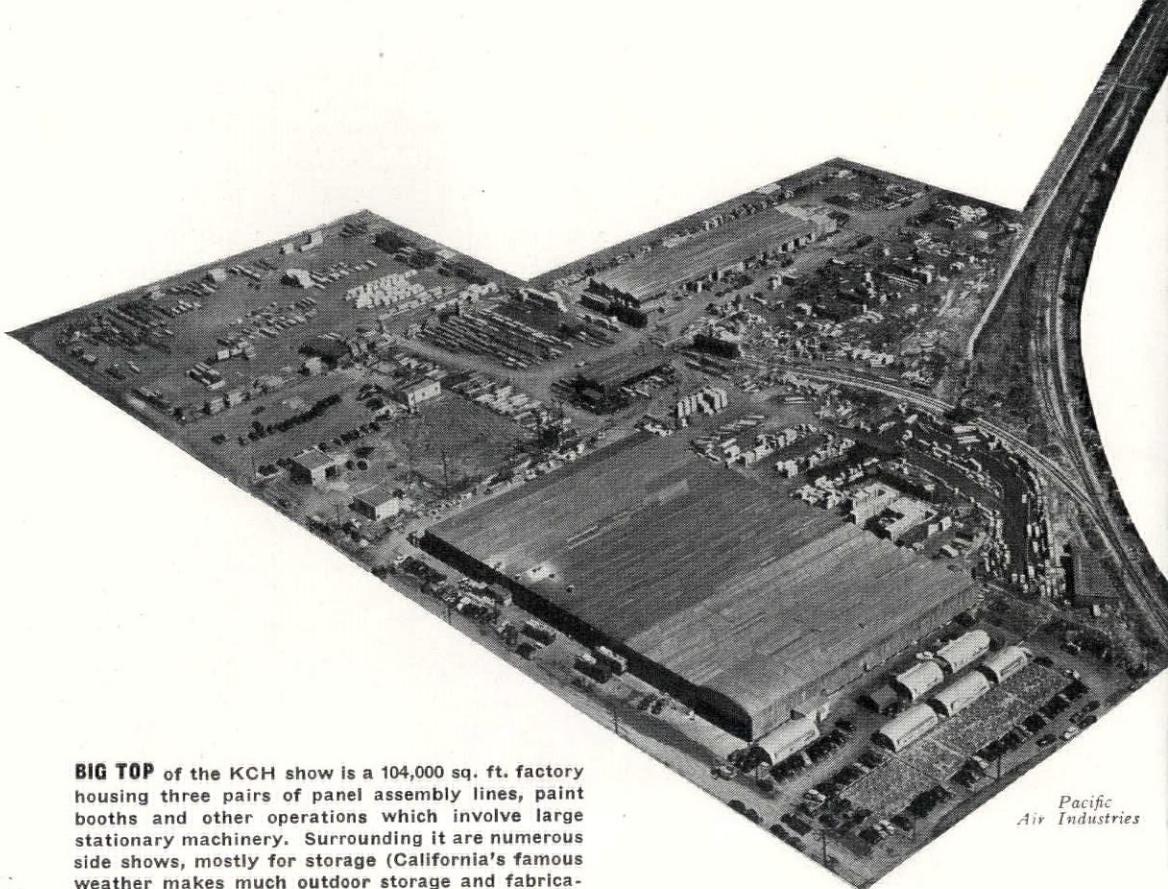
Far from the Buck Rogers conception of total house prefabrication, KCH production is divided about 45-55 between factory and field. This labor breakdown results from a cold analysis of the cost and efficiency of producing standardized houses which look neither alike nor prefabricated.

Nub of the production line is the Los Angeles plant whose towering stockpiles and 16½ acres illustrate a Kaiser maxim: "The secret of fast production is plenty of materials, plenty of space." But the long production line actually starts in the suppliers' mills in the Pacific Northwest, which prepare every piece of lumber, except plywood, rafters and trim, which goes into the KCH houses. The 850 differently shaped pieces arrive precut, numbered and completely finished, rabbeted and bored. Numerous advantages result: 1) Shipping costs are reduced because precut pieces, the smallest of which is 2 x 3 x 2¾ in., can be nested together in predetermined quantities until 42,000-45,000 bd. ft. are squeezed into a railroad car—compared with an average of 27,000 bd. ft. of random-cut lumber. 2) Loading and unloading costs are minimized because many precut lengths are bundled and easier to handle—with the aid of finger-lifts, a car is unloaded in 35-45 minutes as against the usual five to seven hours. 3) Material control is improved—waste runs only about 2 per cent vs. the usual 17 per cent. 4) Suppliers also profit, for they upgrade the precut, prefinished material and utilize small pieces ordinarily burned.

Shop fabrication follows the familiar pattern of finishing sub-assemblies in easily handled sizes with the aid of steel jig tables and then feeding them to moving assembly lines. For example, once the precut 2 x 4 in. framing members of the wall panel (8 ft. high x random length) have been aligned and nailed in the jig, the sub-assembly goes to the line. At the end of the line, the panel is hooked to an overhead monorail and conveyed to the storage area where an inventory of assemblies for about 30 houses is normally maintained. Wall panels are finished one side with plywood; the 2 x 3 in. framework of partition panels, both sides.

Floor panels (8 x 12 ft.) are similarly fabricated of 2 x 4's 12 in. on center covered with 5-ply sheets. They are bonded between joists with plywood back battens. Ceiling panels of the same size are comprised of ¼ in. plywood with 2 x 4's 16 in. on center. Other assemblies include kitchen cabinets, storage partitions and closets, roof trusses, gable ends, overhead-type double garage doors, and the plumbing "trees".

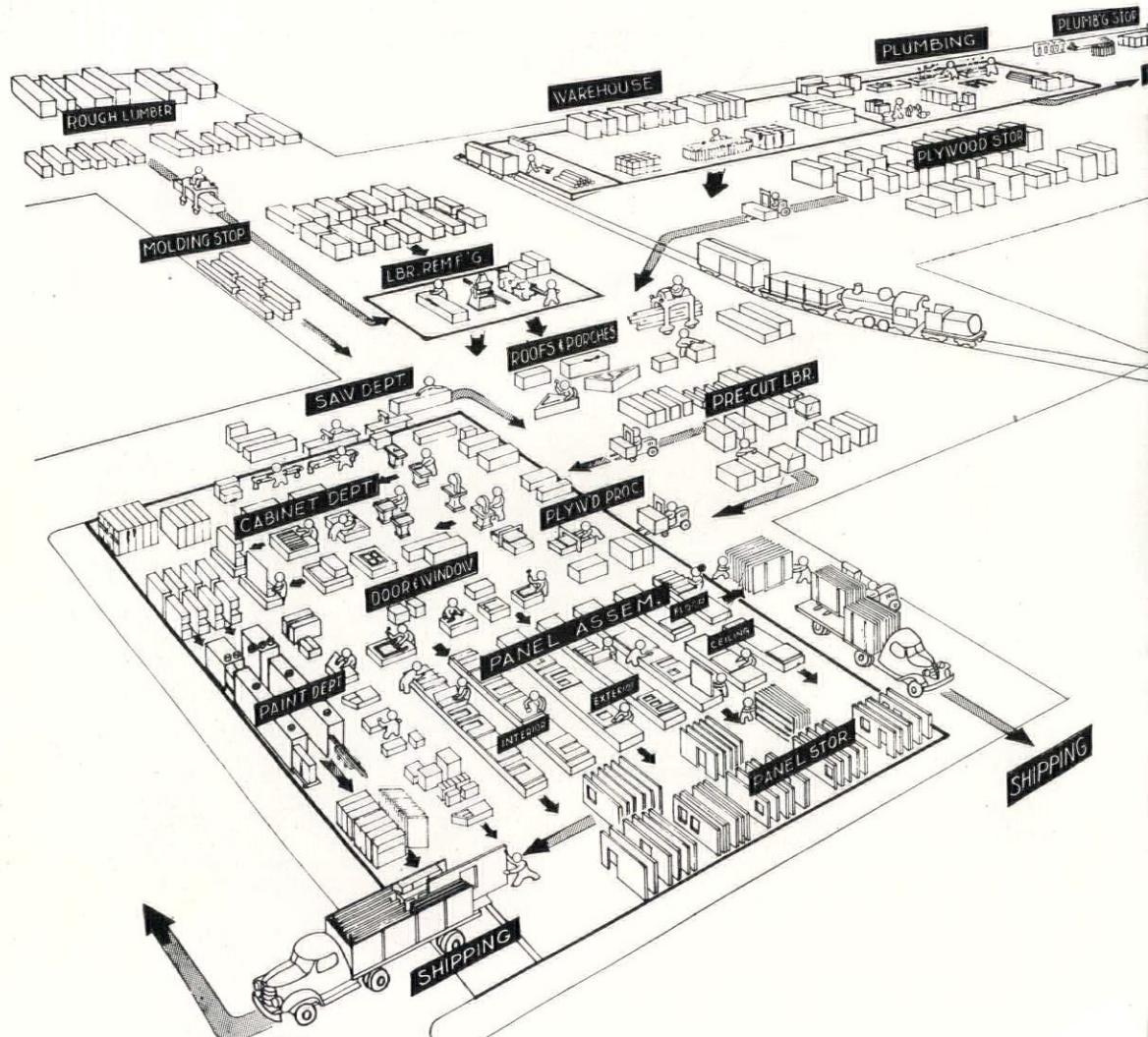
At the site, walls, partitions, cabinets and ceilings—the chassis—are assembled in about four hours. Under pressure, the house can be completed in four days, but the job normally requires 30 to 60 days.



Pacific Air Industries

BIG TOP of the KCH show is a 104,000 sq. ft. factory housing three pairs of panel assembly lines, paint booths and other operations which involve large stationary machinery. Surrounding it are numerous side shows, mostly for storage (California's famous weather makes much outdoor storage and fabrication feasible). Most of the shop work is done by the carpenters trade which operates under a union agreement. A separate agreement covers the painters. Materials are received from a 10-car rail siding; house assemblies are shipped to the field from three plant exits: floor and ceiling sections

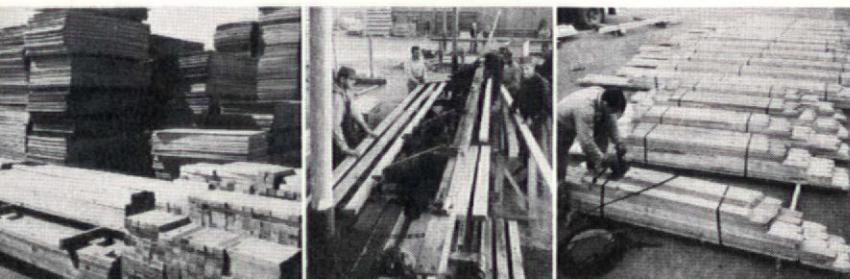
from one; walls, partitions and cabinets from a second; plumbing from the third. Remodeled Quonset huts house the KCH offices. Plant manager is Donald W. Lowman, construction chief is D. C. Slipher—both are veteran prefabbers.



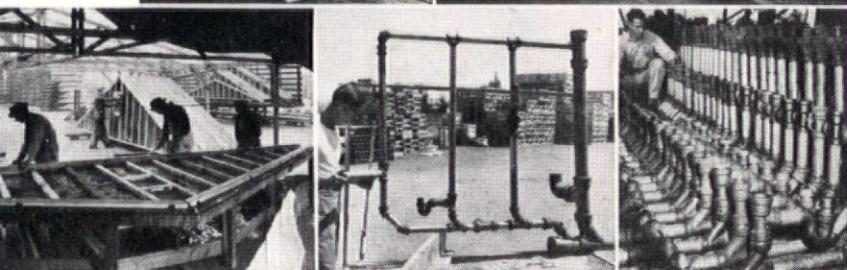
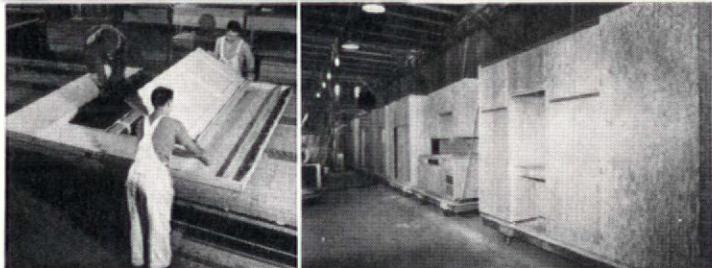
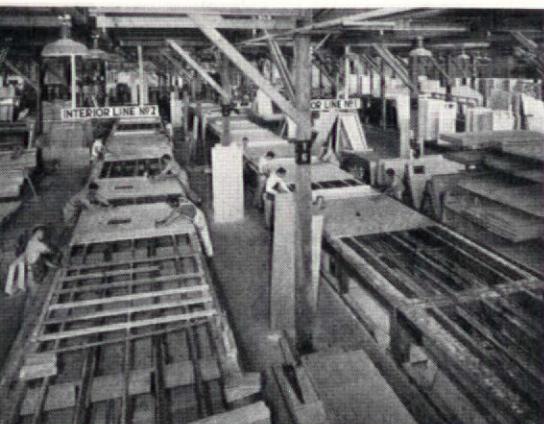
briation of the basic chassis and field application of finishes.

FACTORY

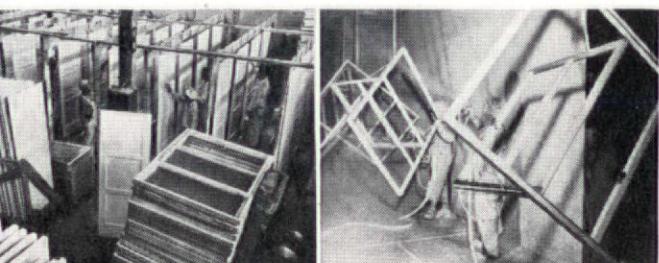
FIELD



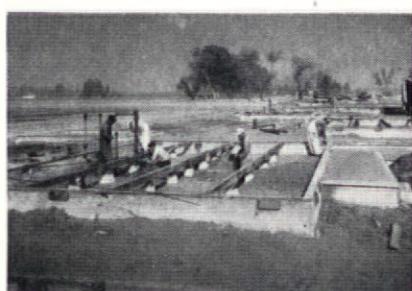
PRECUTTING is done at suppliers' mills (left picture shows a few days' supply curing in the sun) and in a small KCH shop where one multiple saw cuts long boards into three predetermined lengths. Roof members are bundled for each house.



PREFABRICATION of wall and partition panels, complete with windows and doors, is done on six horizontal chain conveyor lines, while kitchen cabinets and storage partitions move down other lines on dollies. Like panel frames, gable ends are assembled in steel jigs to assure minimum tolerances. Since bathroom, kitchen and laundry back up on one another, all 43 pieces of waste and vent piping may be assembled in one piece.



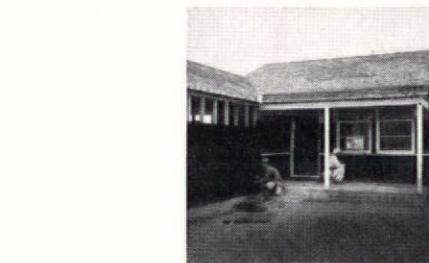
PREPAINTING of all items which will be exposed inside or out is done in the factory—in spray booths or by hand. Finish coat is field-applied.



PLATFORM consists of poured walls with a bolted wood sill, concrete piers topped with three girders, and a concrete floor for the service porch. Floor panels are secured to the girders with metal straps, then covered with waterproof paper for protection during the balance of construction.



CHASSIS, including plywood ceiling panels, is assembled in four hours. Heaviest panel weighs only 450 lbs.; heaviest assembly, the kitchen cabinet unit, 600 lbs.



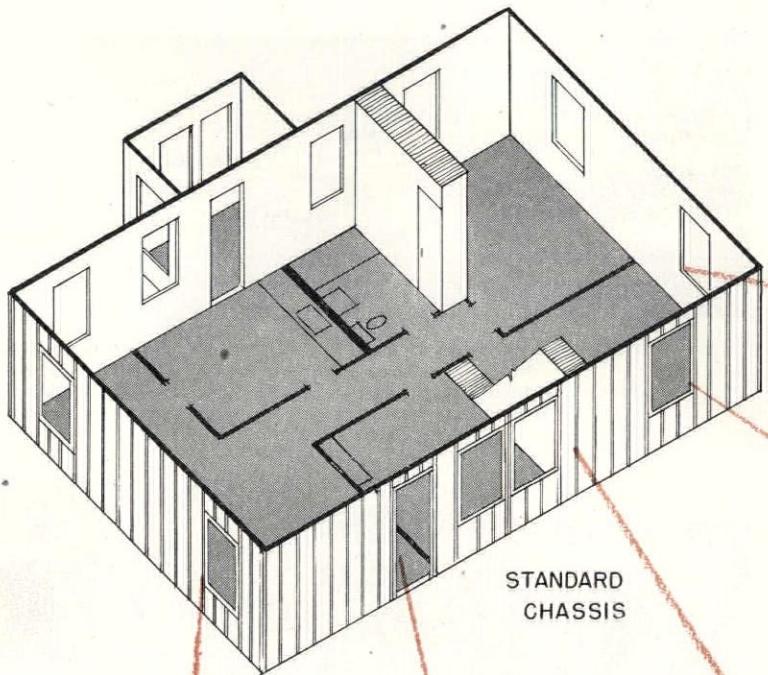
SKIN of the house is conventionally site-applied. Exterior walls are covered with 15-lb. felt paper and finished with wire and stucco in combination with other materials. Roofs are shingled or built up. Interior finishes include pre-coated craft paper on walls and ceilings, linoleum on kitchen and bathroom floors and, in about half the houses, wall-to-wall carpeting in other rooms.

All stages of field work, from street and pole line construction to trimming and landscaping, are conducted simultaneously.

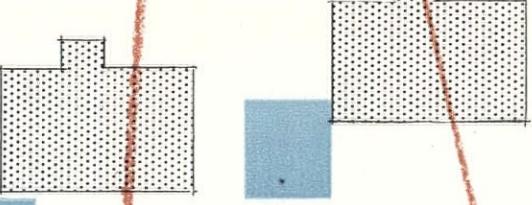


PRODUCT DESIGN

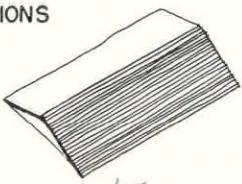
disguises the standard chassis to meet consumer likes, wrapping it a thousand ways.



GARAGE LOCATIONS



ROOF VARIATIONS



TYPICAL GROUPING



Different ways with variable garage locations, roofs, porches and finishes, inside and out.

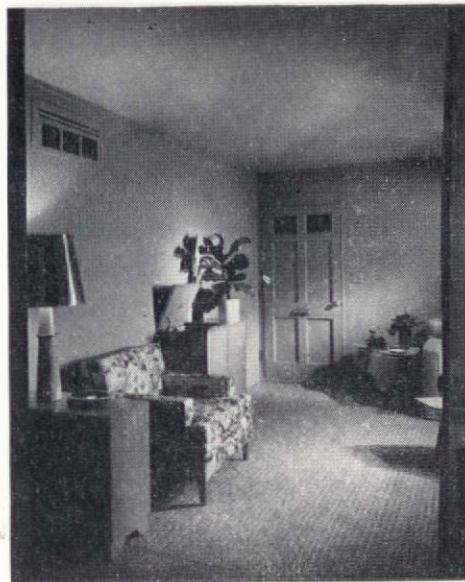
To achieve maximum production speed and economy, all KCH houses are identical in plan and construction. And, the field assembly of parts is uncomplicated by even the common practice of turning and reversing the plan on the lot. To the casual observer, however, the finished products appear quite different and unprefabricated. KCH's Architect Marshall obtains this effect by finishing the standard chassis with varying combinations of so-called "fundamental variables."

Most important variable is the two-car garage which may be located in six different basic positions (including complete detachment) and then opened in any of two or three different directions. Structural variations also include the roof, which comes in four basic shapes, and the multi-sized front porch. Among finishing materials are asphalt shingles and tar and gravel for the roofs and stucco, wood shingles and lap siding for the walls—and all of these may be varied in color and set against different landscaping. Simple multiplication indicates the fantastic number of different houses which combinations of these variables can produce. (For instance: 6 garage locations times 2 garage orientations times 4 roofs times 6 porches times 2 roof finishes times 3 side wall finishes times merely 3 colors equals 5,184 different exterior appearances.) However, KCH achieves the desired effect with only a small fraction of this number.

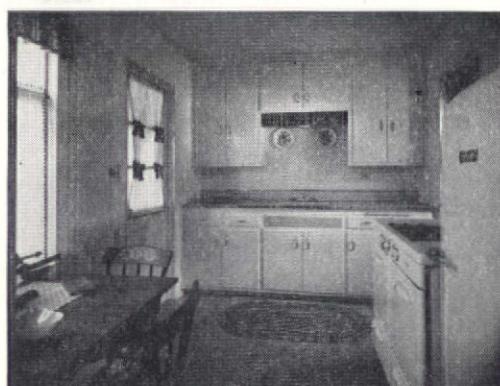
Like the exterior design of the houses, floor planning is average or better by traditional standards. Rooms within the 24 x 38½ ft. rectangle are of average size (see dimensioned plan, p. 110), but, being separated by plywood storage partitions and 2 x 3 in. stud partitions, take up less space than in a conventionally built house. KCH estimates that the total 956 sq. ft. area (6748 cu. ft.) offers the same usable space as a 1,038 sq. ft. conventional house. The garage adds 360 sq. ft. (2,880 cu. ft.). Thus, at \$8,650, the whole package with lot, sells for \$6.57 per sq. ft.



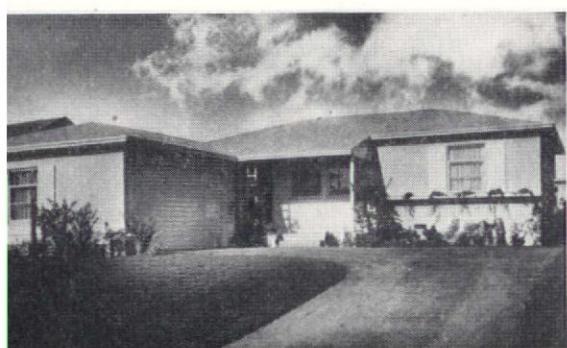
LIVING-DINING ROOM



KITCHEN



BEDROOM



TYPICAL EXTERIORS demonstrate the effectiveness of KCH's "fundamental variables," show three different roof shapes, garage locations and porch forms, several combinations of roof and wall finish and such trimming as shutters, lattice work and trick planting. Left to right, the three (of six) basic models are called "Suburban," "Palm Springs" and "New Englander."

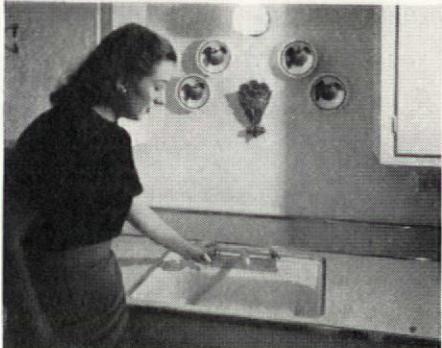
Maynard L. Parker, photos

MERCHANDISING

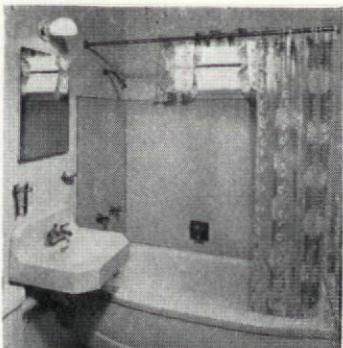
is based on well-publicized sales features, furnished model houses, a continuing



SERVICE PORCH contains broom closet, shelves, water heater and laundry tray.



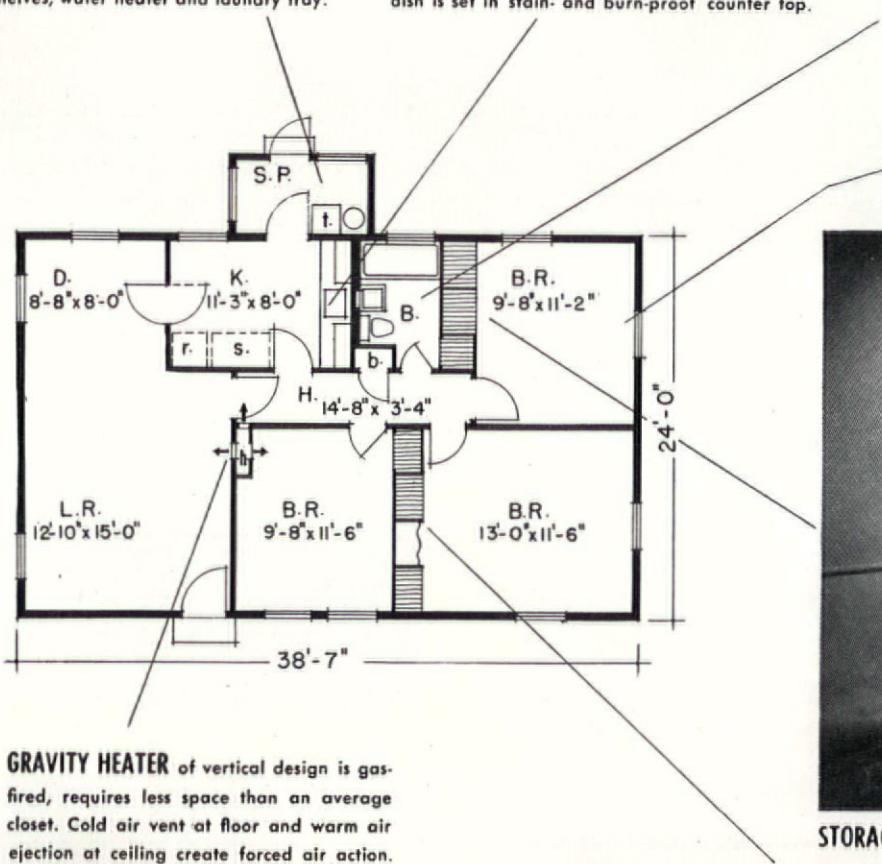
KITCHEN SINK of pressed steel with integral soap dish is set in stain- and burn-proof counter top.



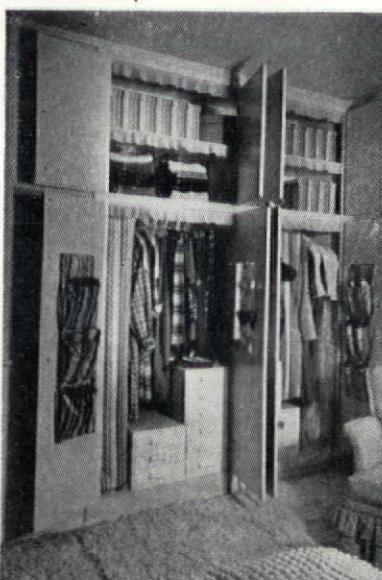
BATHROOM features wainscoting of porcelain enameled steel.



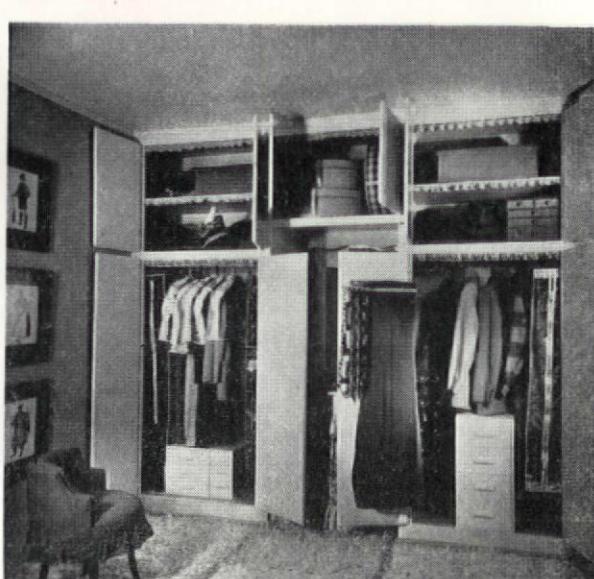
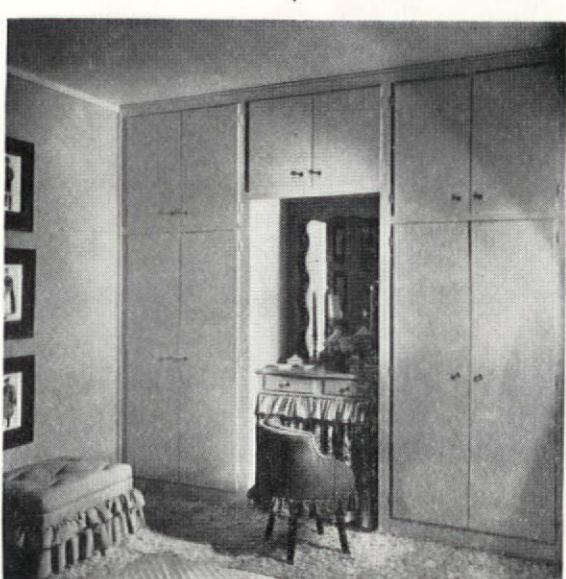
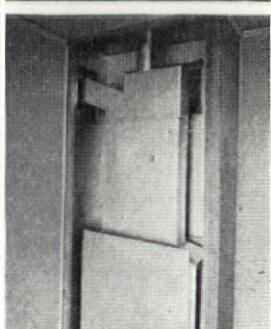
WINDOW is awning type; lower two-thirds swing out; inside screen slides up.



GRAVITY HEATER of vertical design is gas-fired, requires less space than an average closet. Cold air vent at floor and warm air ejection at ceiling create forced air action.



STORAGE PARTITIONS provide six closets with overhead cabinets plus a dressing table.



interest in the purchaser and the community, and expert showmanship.

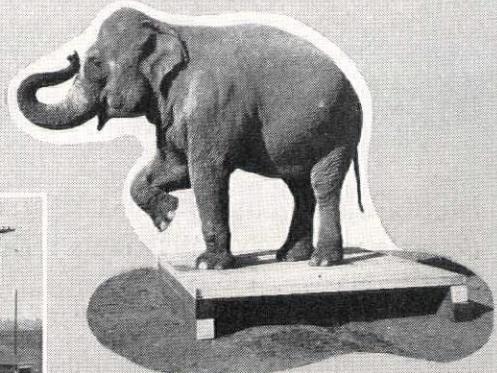
Last in order, merchandising is actually the first and biggest ring in the KCH show, for all other aspects of the huge operation are based on Kaiser-Burns' sales philosophy and technique. While other industrialized house builders streamline their designs to fit the machinery of mass production and count on the housing shortage and missionary work to offset sales resistance, KCH reverses the procedure, adjusts its production facilities to houses of accepted appearance and counts on easy sales to keep the machinery spinning.

Headed by 401 cu. ft. of storage space, a few of the built-in sales features are pictured to the left. Others: washable wall coverings, copper water tubing, bronze screens, a dozen double electrical outlets in the living and sleeping areas, carpeted floors, a built-in ironing board, a work light over the kitchen sink, a built-in dressing table, a door knocker, a letter slot and a two-car garage.

Many of these coveted accessories were tested in Burns' "Post War House" (FORUM, Mar. '46, p. 97), a \$150,000 showcase of new house-building developments. Besides telling Burns what the public wants, it is a spectacular publicity stunt which is still paying spectacular dividends. By year-end, 300,000 potential customers had been ushered through the display house—the first 100,000 at \$1 a head, the balance at 35 cents each.

Such showmanship characterizes the whole KCH operation. Model houses are displayed with furniture scaled to the various room sizes. Personable hostesses whose knowledge of building and selling is not left to chance, receive and inform the public. No shrinking violet, KCH creates a headline-making scene at every opportunity: to demonstrate the strength of a glued plywood panel to the dubious prospect an elephant is used as the weight, and, when a row of houses is finished and sold, moving vans in a carefully rehearsed parade move in a whole neighborhood at once. Finally, KCH takes good care of its buyers with post-sales services and helps them beautify their properties with "psychological equities" (see supplement, page 152).

In a sellers' market, this well-aimed publicity sold 600 houses last year and has built up the waiting list to 3,500—all veterans and all attracted without a word of paid advertising. When a new batch of houses is ready, KCH's chief salesman, Fred Bauerfield, deals a corresponding number of cards off the top of the waiting list, writes them that "the Kaiser Community Home you have so patiently waited for is ready for your inspection and selection." The letter also says to bring discharge papers and \$615 in cash. Balance of the \$8,650 cost is raised with a 4 per cent, 24-year mortgage written by Allied Building Credits, Inc., or Bank of America. Monthly payments total \$55, including \$11.50 for insurance, taxes and other incidentals in excess of the \$43.50 for interest and amortization.



JUMBO, at 5,000 lbs., dramatizes the strength of a prefabricated partition.



MODEL HOUSE, expertly furnished, attracts big crowds even on weekdays.



FORTY VANS
simultaneously
move 40 veterans
into 40 new houses
on a single block.



GOLDEN KEY is presented first KCH owner by Kaiser and Burns.

"**PSYCHOLOGICAL EQUITY.**" Landscaping by the owner is encouraged to improve the property, the mortgage risk and the community.



PRODUCTS AND PRACTICE

MICROCLIMATOLOGY is a big word for the study of small-size weather. Aided by Meteorologist Helmut Landsberg, FORUM presents some provocative facts for architects, realtors and city planners on climatic conditions at the "breathing line."

Architects are well aware that the climate of Detroit is quite different from that of Monterey, Calif. But they seldom realize that the climate of their own home town often varies sharply in a distance of less than a mile or a change in elevation of a few feet. Everyone knows that grass makes a more pleasant entourage for a building than asphalt. But few building professionals have actual data at their fingertips as to precisely why or how it gets that way. Hence, they would probably be surprised to learn that, on a summer's day, surface temperatures of a grass plot might easily be 25 or 30 degrees lower than those of an adjoining sheet of asphalt. Every city dweller is aware that in the summer it is cooler in the country, but few stop to ask why this is so, or what can be done about it.

In other words, although everyone is acutely aware of the general climate of his locality, no one knows much about the climate of his own backyard. Yet modern meteorology indicates that there may be a whale of a difference between the two. This study of the small size climate at a large scale is what the weather men mean when they speak of the "microclimate". The "micro" refers to the scope of

the area studied, not the size of the differences.

There are many reasons for this blind spot in the popular mind—the first of which is, ironically, the Weather Bureau itself. Most people forget that the Bureau collects information on atmospheric conditions mainly for the purpose of weather forecasting, especially for the aviation industry. For this purpose, the weather man prefers to make his readings in what he calls "undisturbed conditions." These are found away from the surface of the earth and away from the congested areas of big cities and lead naturally to weather stations atop tall buildings or at airports.

The information obtained in this fashion is not immediately applicable to the zone of normal occupancy. We live close to the ground in a disturbed thin skin of the atmosphere which is studded with microclimatic differences. The most profound fluctuations in this microclimate are due to variations in local topography, to the presence or absence of water bodies, to forest and park areas, to the structure and cover of the soil. To a lesser extent, the microclimate is influenced by hedges, walls and buildings.

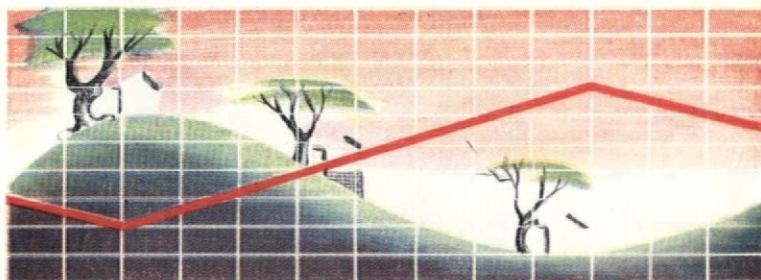
While the general climatic conditions of a

given locality are beyond control, the climate of a specific portion can be readily influenced. This will be especially true if the area is intensively built up. Usually—because of lack of understanding of the factors involved—the intensive development of a given plot will depreciate its microclimate. Yet there is ample evidence that important economies in the heating, cooling, lighting and cleaning of buildings can be gained by use of microclimatic factors in siting, designing and landscaping.

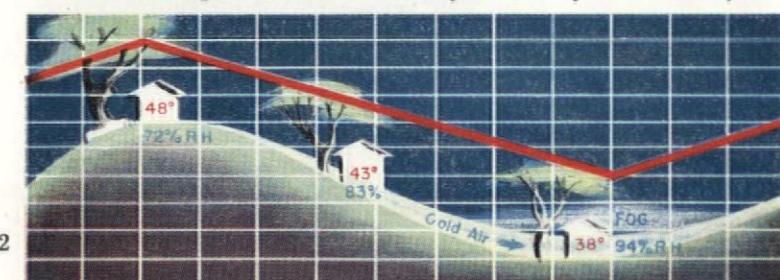
When considering buying a house today, most people are aware of the importance of "getting out of the smoke," many of them want a good outlook or view, a few may even demand a southern exposure. Most house hunters however, are apt to be more influenced by whether or not the site is in a good neighborhood. The microclimate is seldom taken into account in site selection—despite its considerable effect on the living environment.

For the most part, microclimatic variations are caused by local topographic differences. Even a small change in elevation can cause large changes in free air temperature.* This is most marked on a clear, calm night, when a few feet of change in elevation can be equiva-

HOW TOPOGRAPHY AFFECTS MICROCLIMATE



Your heating bill will be less if you move your house uphill

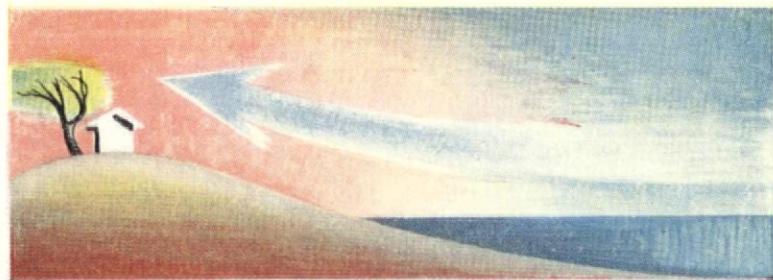


But cold winds at crest may offset higher temperatures there



Thus best location is apt to be halfway up a southern slope.

HOW WATER BODIES MODIFY MICROCLIMATE



In daytime, an offshore breeze may cool air by as much as 10° F.



At night, breeze is reversed but still has a cooling effect



Yet force of breeze is limited. Tall buildings may block it.

lent to over a hundred miles change in latitude. Troughs and valleys in the topography cause remarkable differences. The extent of such variations is illustrated by the concrete example in Fig. 2—a small trough, only 400 ft. wide with a difference of 25 ft. in elevation between bottom and crest. On a clear night with little wind, the lowest point shows a temperature 11 degrees colder than that of the crest, its relative humidity is 20 per cent higher. Because at night the heavy cold air drains to the lowest point of this valley, a farmer would call this exposure a "frost hole" and on many a morning a thin sheet of fog will form here. In terms of heating costs or comfort, this would be a far from negligible differential. In daytime—and especially in summer—conditions are reversed. The hole will be four or five degrees warmer, the humidity 10 per cent lower, than that of the slopes. (Fig. 1) Thus a trough accentuates extremes.

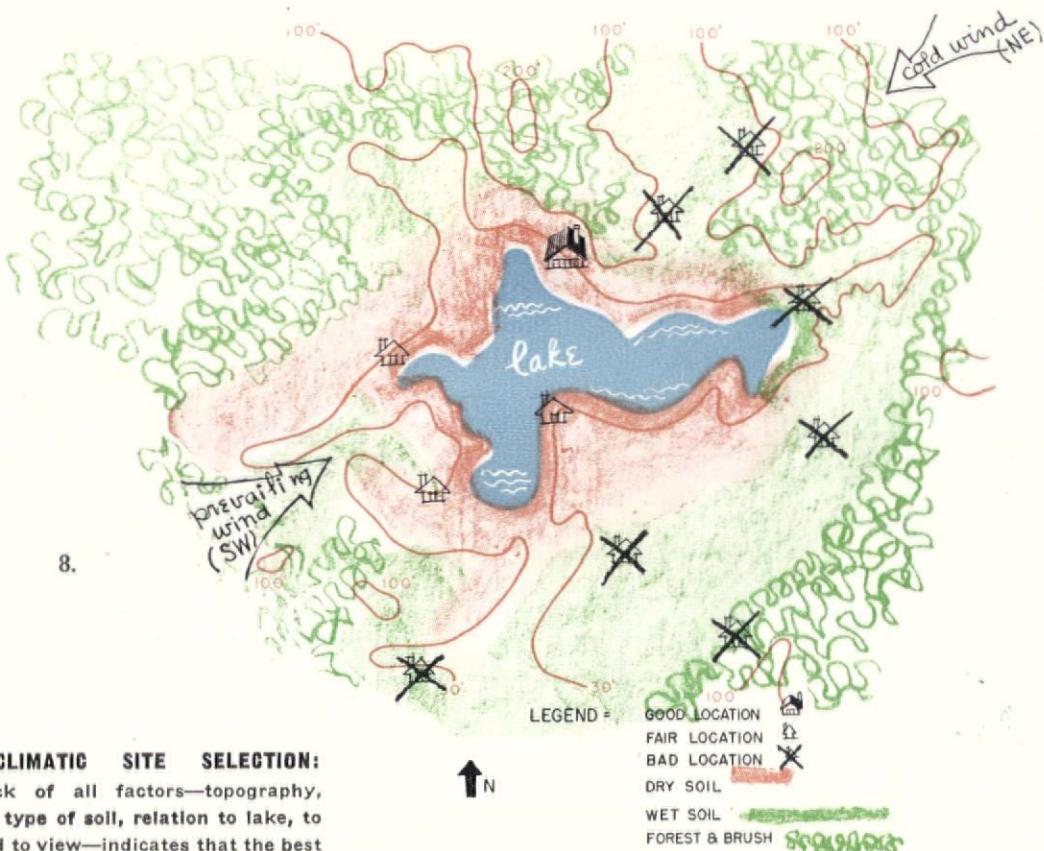
It does not follow, however, that the microclimate of the crest is always more favorable than that of the valley. On cloudy and windy days, temperature conditions are apt to be more uniform. Then too, it is obvious that the crests are a good deal more exposed to the wind than the bottom of even a slight depression. Hence, in winter, a house on the crest on windy days will require considerably more heat than one in the trough below—and this may become a marked factor if we deal with a

* So pronounced is the effect of elevation on temperature that in fruit zones like the citrus belt in Florida, daily weather forecasts are given in "feet above sea level."

difference in elevation of as much as 100 or 200 ft. Thus, exposure to wind may offset the temperature advantages of the crests; for a house on the hilltop may lose three times as much heat as a similar one on a valley floor

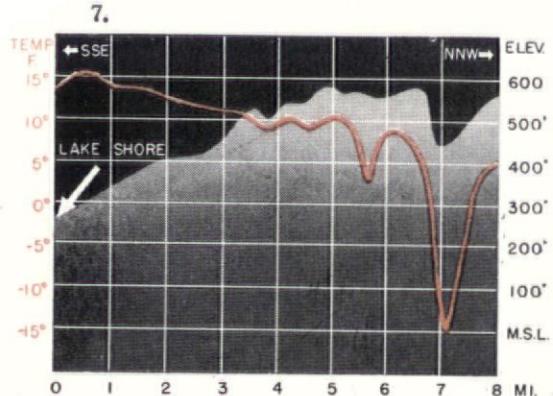
Much will depend on the direction of exposure. On the lee side of a hill just below the crest, the wind effect is mitigated, but on the windward slope it is comparable to, or even worse than, that on the crest. In the northeastern United States, generally, cold winds blow from the northwest and prevailing summer winds from the opposite direction, the southeast. If to this we add the fact that a southern exposure permits the best exploitation of solar radiation, then it is clear that, in undulating terrain, the most favorable building sites would lie on southeast slopes about midway between the bottom and top. (Fig. 3)

After topography, proximity to water bodies is next in importance. Areas along the lee side of water bodies have a less extreme climate than those on the windward side. In winter, unless completely frozen over, they raise the lowest temperature, in summer they lower the highest temperatures. (They always raise humidity in their immediate vicinity.) Naturally, the larger the water body, the more extensive is its microclimate effect. In the warm season, the shores of the ocean and all larger lakes benefit by a daytime breeze from the water body inland. This lake breeze underruns the prevailing winds on many days when the land is overheated by sunshine and thus benefits even the windward shores. (Figs. 4, 5)



MICROCLIMATIC SITE SELECTION:

a check of all factors—topography, winds, type of soil, relation to lake, to sun and to view—indicates that the best site for a house will be at the center of the north shore. Here the microclimate will show the smallest extremes.



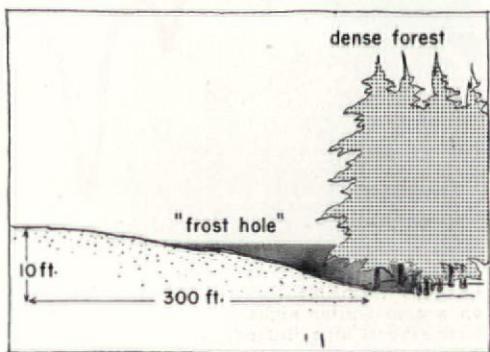
IT IS 30° WARMER along Toronto's lake shore on a cold winter night than it is on the valley floor several miles inland. The city plan ignores this important microclimatic effect.

The stabilizing effect of water bodies on temperature is, however, a phenomenon of small dimensions—even on large lakes. Along the shore of Lake Michigan at Chicago, the off-shore breeze on many hot days will lower the maximum temperature by 10 degrees and gives welcome relief. But it rarely reaches more than $\frac{3}{4}$ of a mile inland and is practically imperceptible half a mile from the lake. On the shores of the ocean, the sea breeze has more penetrating force and is felt rather regularly several miles inland. Since, in most urban areas, the waterfront is densely built up, the offshore breeze there is further reduced.

At times, water bodies and topography both enter into the microclimate. A classic example, where measurements have been made, is that of Toronto, Ontario. Fig. 7 shows a topographic profile and a temperature profile across the city on a clear winter night. Two features are noteworthy: One is the gradual decrease of temperature as one moves away from the lake. The second is the remarkable temperature "low" in the valley seven miles distant from the lake. The differential between this point and that of the lake-shore is around 30 degrees! Had information like this been available to the men who originally laid out the city, the configuration of Toronto would undoubtedly be different today. To these factors of topography, prevailing winds and water bodies another can be added: soil conditions. The construction of the soil will have a definite microclimatic effect: in the same general environment, dry soils (sand and gravels) cause higher temperatures and lower humidities; wet soils (loams, marshes) lower temperatures and higher humidities.

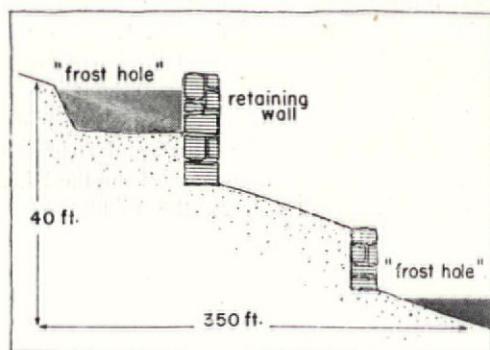
The synthetic effect of all these factors on the microclimate is demonstrated in Fig. 8. Weighing them one against another leads to a selection of one site as, microclimatically, the most desirable for building. Obviously, few laymen and not many architects will have either the time or the equipment to make all the measurements indicated in this example. Often, plain commonsense analysis will substitute admirably. In many cases, nature itself provides as good information as any number of thermometers. For instance, plants are very sensitive to their microclimate. Much can be learned by watching the time of budding and blooming in the spring. In a favorable microclimate, this will occur many days ahead of unfavorable exposures in the same locality.

EVERY CHANGE IN THE LANDSCAPE alters its microclimate. Some simple factors to consider in site planning and development



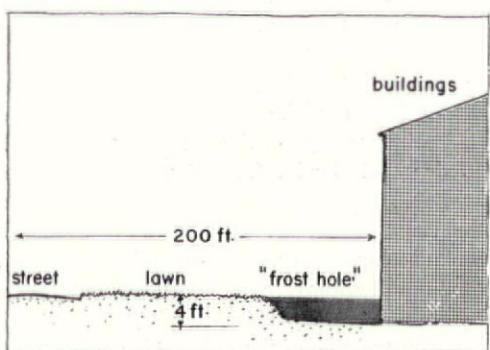
COLD AIR FLOWS DOWNHILL, like water: hence, any obstruction on the slope can create conditions undesirable for both house and garden.

9.



10.

EVEN SMALL CHANGES in the landscape can create surprising changes in the microclimate. In one case, a retaining wall along a desirable hillside exposure dammed up cold air, led to a frost hole as bad as that on valley floor.



11.

DEPRESSIONS around buildings often become cold air traps, creating a microclimate quite different from an exposure a few feet higher.

The sun is, of course, the most important factor in the climate; except for diurnal and seasonal variations, it is also the most constant. But the effect of the sun on a given site will, to a very large degree, be determined by the size, relation and textures of the various surfaces on which it falls. Every type of natural ground cover—grass, shrubbery, trees; each square yard of pavement; every wall and roof—will have a small but perceptible effect on the microclimate of the lot. In urban sections, the cumulative effect of replacing natural surfaces with man-made ones will often be severe.

The natural cover of the land tends to stabilize temperatures and decrease extremes. Man-made surfaces, on the other hand, tend almost without exception to exaggerate them. Generally, plant life acts as an absorbent material in the landscape, blotting up heat, light and sound. Because leaves suspirate—i.e., give off moisture—they actually destroy a large portion of the heat which falls upon them. Thus, they reradiate far less than inorganic materials. Hence, in addition to their shading effect, plants have a definite cooling effect and are of great importance in ameliorating the microclimate, especially during the summer.

In this connection, it is worth noting that seemingly unimportant changes produced by building and landscaping can cause a marked unfavorable change in the microclimate. Small obstacles—a wall, a hedge, a row of trees—will act as a dam, behind which on many nights a small lake of cold air will stagnate. Three examples are shown in Figs. 9, 10 and 11.

In flat open country, on the other hand, hedges and windbreakers often offer excellent microclimatic protection. Temperatures behind the hedge may be from 3 to 5 degrees higher than on the windward side, wind velocities reduced by as much as 20 per cent and fuel bills of houses so protected will be correspondingly reduced. This effect of windbreaks can be distinctly noted in the growth of the plants on the sheltered side. (Fig. 23)

Unfortunately, there has been no systematic

study of the temperature fluctuations found in any sunlit microclimate. But some observations are available which show that such fluctuations are comparatively great. On a very hot day, when the air temperature in a meteorological shelter read 98° F., asphalt pavement nearby reached a temperature of 124° F. The air layer between 1 and 4 ft. above the asphalt—i.e., the zone in which human beings would walk—had a temperature of 108° F. The air temperature under a roof was thus 10° lower than over a dark paved surface. In the same instance, a concrete surface was 14° cooler than the asphalt.

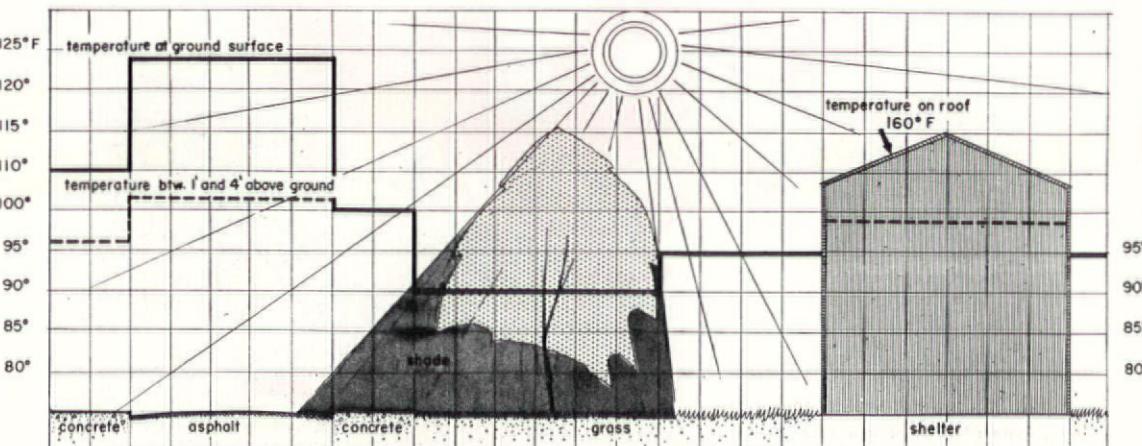
One of the cases for which measurements of radiant temperatures are available was made in Arizona on a day when the air temperature in the shelter was 108° F. The temperature of the ground surface at that time, in the early afternoon, reached in some spots 160° F. Within the zone in which human beings would walk, radiant temperatures of between 114° to 120° F. were measured. The physiological effects of such high radiant temperatures are approximately the same as those of a corresponding air temperature. (Fig. 12)

It is generally found that air temperatures about 1 ft. above the soil on sunny summer days are about 8 to 10° lower than the soil surface itself. The difference between exposed soil (depending somewhat on its color) and grass surfaces is between 10 to 14°—the grass, of course, being the cooler surface. Between grass and paved surfaces, the temperature differential may be much greater.

On a bright day, the amount of light reflected from concrete or similar light surfaces will range from 25 to 35 per cent of the incident light, while grass surfaces reflect only about 10 to 15 per cent of the light.

As everyone is aware, large shade trees afford considerable protection from both air and radiant temperatures. But how much? At midday, 1 to 6 ft. above the ground, the air under a tree is around 5° F. lower than that in an unshaded environment. There are no data available on the actual amount of radiant

12.



ON A SUMMER NOON, it will make a great deal of difference whether a house is surrounded by pavement or grass, exposed to sun or shaded by trees. Although seldom measured, the differences are often quite large at the "breathing line".

which tend to minimize climatic extremes.

which can be diverted from a house by shade tree. But measurements of illumination; i.e., the visible part of the spectrum, indicate that under a fully leaved tree only 30 per cent as much light will be received on a horizontal surface as in an unshaded area. The soil in a deciduous forest receives only 10 per cent of the illumination found outside of the forest.

It is when we consider groups of buildings, however, that a knowledge of the microclimate becomes very important. For small changes in landscape, if endlessly repeated, add up to gross alterations to the microclimate. So far, one has measured all the environmental differences between the tree-shaded, lawndded open blocks which characterize the suburbs of many smaller towns (Fig. 13) and the densely built up areas of our larger cities (Fig. 14). But no climatologist is necessary to prove that the change must be great—and the worse.

That such planning is not necessary, even in the crassest grounds of economy, was demonstrated a decade ago by Henry Wright, in a study for the Pierce Foundation (Fig. 15). This study indicated that, even with a gridiron pattern of small houses on small rectangular lots, it was possible to place them so that—in terms of sunlight, view, prevailing winds and privacy—they produced an incomparably more satisfactory microclimate than the barracks-like plan shown in Fig. 14.

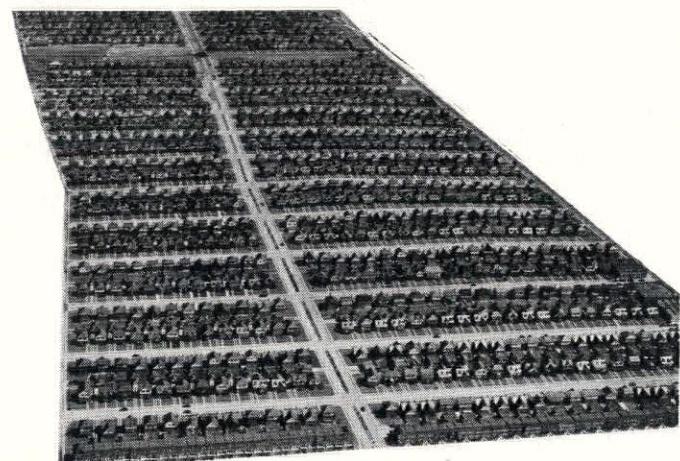
Because it is a hypothetical study of solar radiation, primarily concerned with winter heat gain, the Wright scheme is not complete. It does not take into account either topography or plant life. But it is apparent that as a principle it could be adapted to any type of terrain. And a landscape design which made intelligent use of ground cover, shrubbery and deciduous vines and trees could easily yield the maximum of summertime protection.



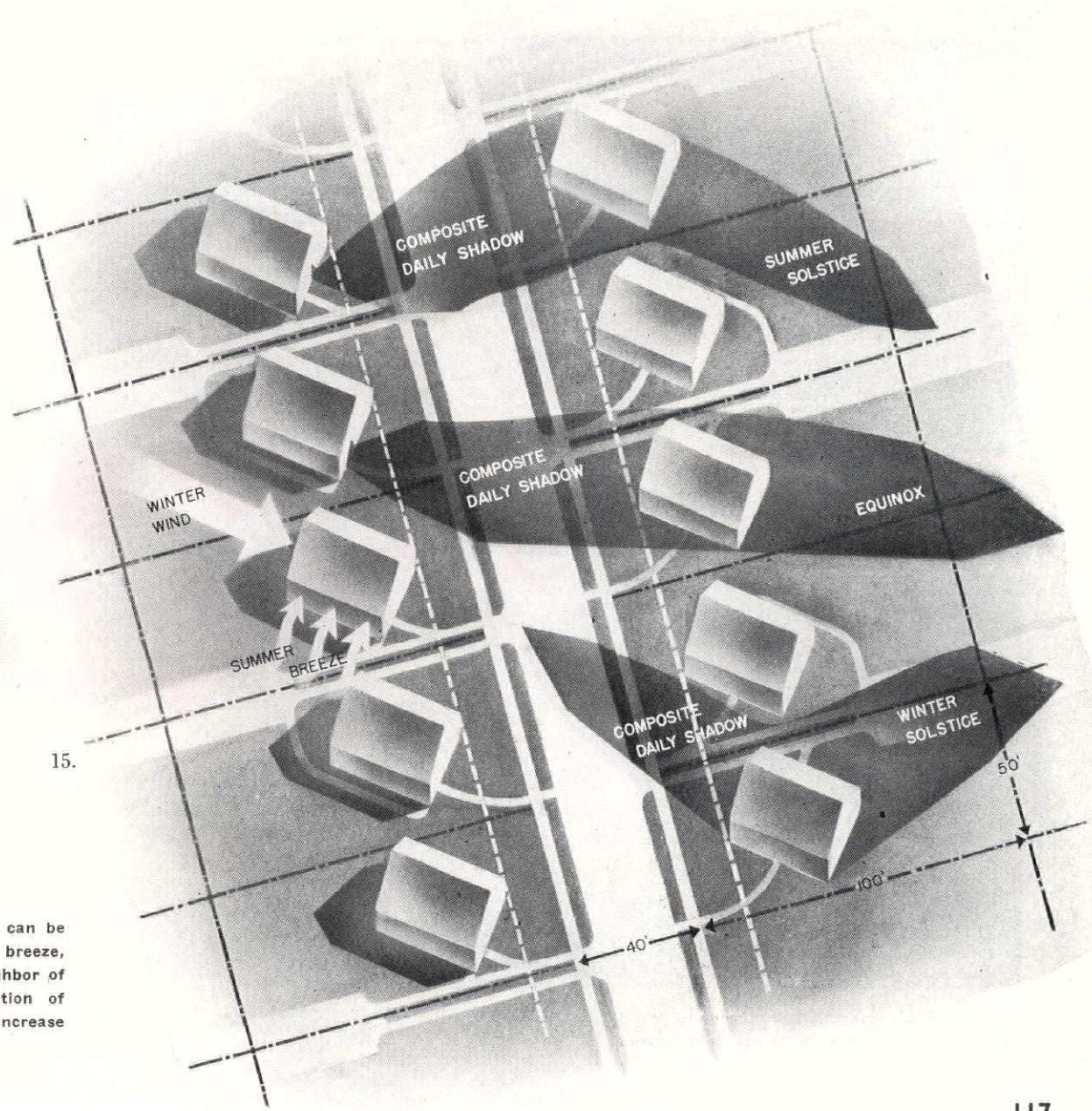
WITH ALL ITS ABSORPTIVE SURFACES of trees and grass, an open residential area like that at left is certain to have a more tolerable microclimate in summer than . . .

Fairchild Aerial Surveys, Inc.

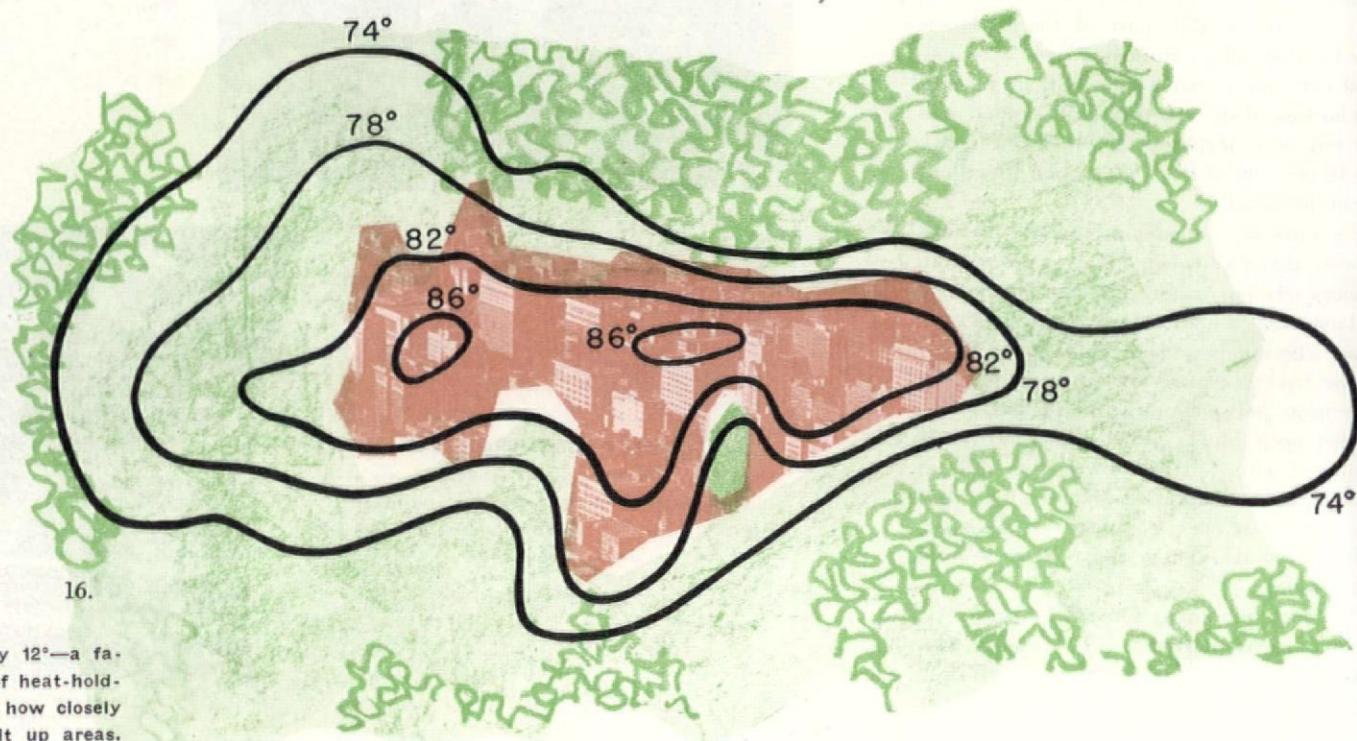
13.



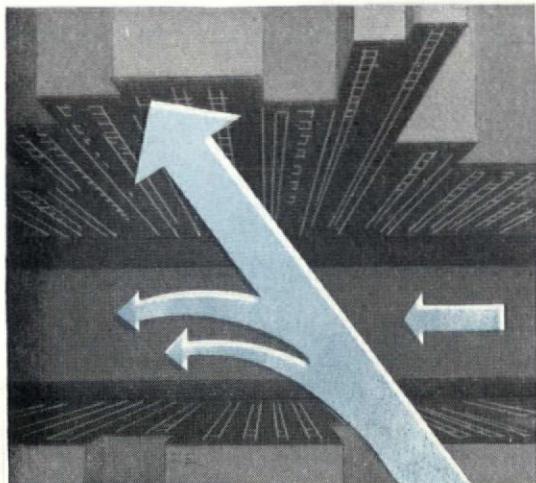
14.



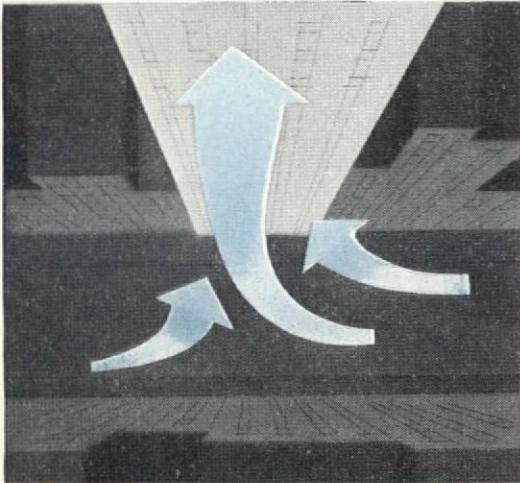
MORE COMFORTABLE CITIES, winter and summer, will result from planning which takes



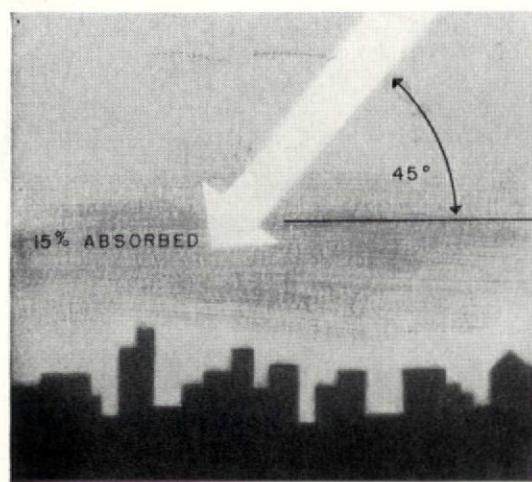
COOLER IN THE SUBURBS by 12°—a familiar effect of dense areas of heat-holding masonry surfaces. Note how closely temperature lines follow built up areas.



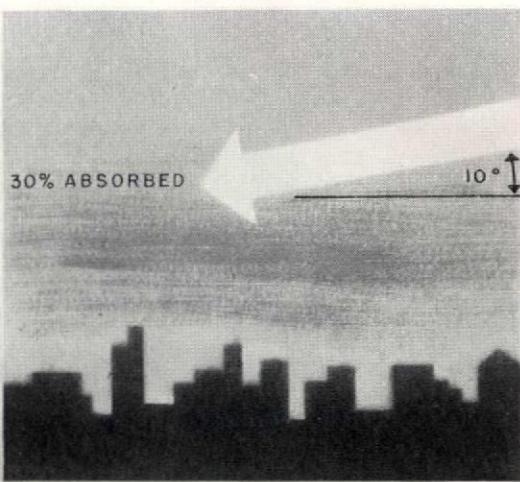
CANYON STREETS can convert mild breezes into winds of gale-like proportions along sidewalks.



HEATING EFFECT of sun on large buildings will further complicate air currents on streets.



A SMOKE PALL over a city reduces visible solar radiation by as much as 30 per cent, invisible



ultraviolet up to 50 per cent. Pall of dust and smoke makes cities hotter, more humid in summer.

The proof of how profoundly we can modify the microclimate is most evident in our cities. These generally show a remarkable difference of climate compared to their relatively undisturbed surroundings. Almost without exception, this change has been brought about accidentally. Very few cities in the world have a "planned" climate.* In most cases, with the passing of the years, development has taken a haphazard course. The changes have been subtle and have thus gone generally unremarked. The simplest illustration is, of course, that of smoke. Until our cities are completely powered by hydro-electric or atomic energy, the first concern should be to plan the city in harmony with the prevailing wind direction. Residential districts should be built on the windward side of the area, smoke-producing factory districts and traffic centers toward the lee. The simple insertion of tree belts between industrial and residential areas will often act as a quite effective barrier to dust (Fig. 21).

Dust and smoke are among the most important factors affecting the urban microclimate. They cause the frequent, often very stubborn "smogs," which seriously hamper many cities during the cold season. These cut down the intensity of solar radiation, especially in the biologically important ultraviolet wave lengths, which may be reduced by 50 per cent during the heating season. (Figs. 18, 20). In sum-

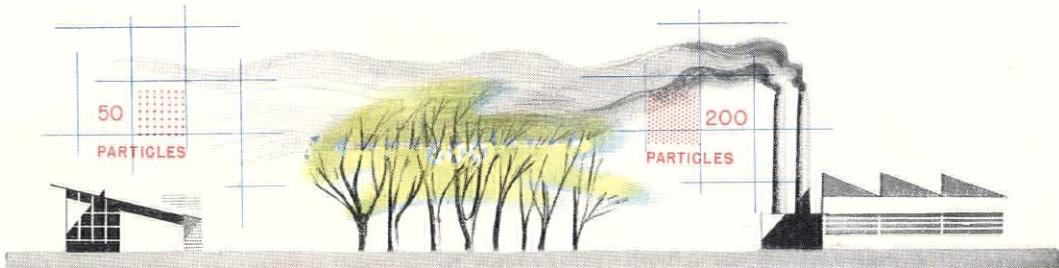
* The Russians took the lead when they formulated the plans for the new cities of Magnitogorsk and Stalingrad: topography, prevailing winds and solar orientation were controlling factors in their designs.

account microclimatic factors of topography, prevailing winds, path of sun.

A tree belt can be an effective barrier against . . .

21.

SMOKE AND DUST. Actual measurements indicate that a 600 ft. wide belt of planting can reduce dust count by as much as 75 per cent. Even lawns act as dust filters.



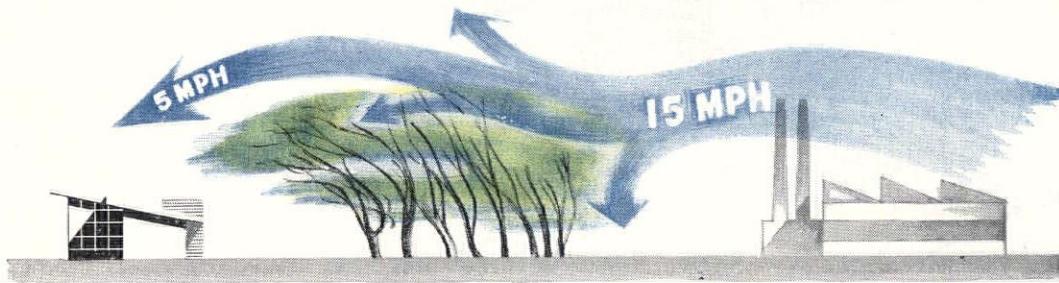
22.

AIRBORNE SOUND. Densely-planted belts of trees, edged with lower shrubbery, are acoustically effective, especially in summer when doors, windows are open.



23.

WIND. Even bare deciduous trees reduce wind velocities, raise temperatures in lee. Since prevailing winds come from opposite compass points, summer and winter, tree belts need not cut off summer breeze.



merit this absorption of solar energy by a smoky atmosphere raises the air temperature decidedly and this—together with a parallel increase in humidity—contributes materially to summer discomfort.

Because it is climatically ill-planned, the typical American city produces a special microclimate which closely resembles that of a stony desert. The rapid runoff of all precipitation deprives it, especially in summer, of beneficial cooling by evaporation—a loss amounting to about 1,500 BTU per square foot of area per season. Add to this the heat absorbed by the dust pall and the result is an air temperature considerably higher than the surrounding countryside (Fig. 16). In certain areas along solidly built-up streets, the temperature of paving, walls and roofs will, of course, be much higher. Here an egg may literally be fried to a crisp on naked man-made surfaces exposed to the sun. There may be some small advantage in the winter to the heat-holding masonry fabric of our cities; but in summer it causes greater discomfort.

In the context of most American cities, every scrap of lawn, every clump of bushes, every row of trees can thus be justified on the very practical grounds of increased summer comfort alone. The more of them it has, the more tolerable the city is apt to be; and if the disposition of such areas is planned in conjunction with all other microclimatic factors—topography, water bodies, prevailing winds, path of sun—the city would have less need of both furnace and cooling coil.

However, in the northern zones of the United States, summer heat is secondary to

the desire for winter sunshine and its exploitation for heating and illumination in individual buildings. Obviously, the ratio of street width to building height regulates this. For example, on a surface behind a top-floor window, we can expect to get 50 per cent of the illumination received outdoors. At a height below the roof line equal to half the width of the street this value has been reduced to 35 per cent; at one street width below the roof, to 25 per cent; at two street widths, to 15 per cent; and at four street widths below the roof we get only 8 per cent of the outdoor illumination.

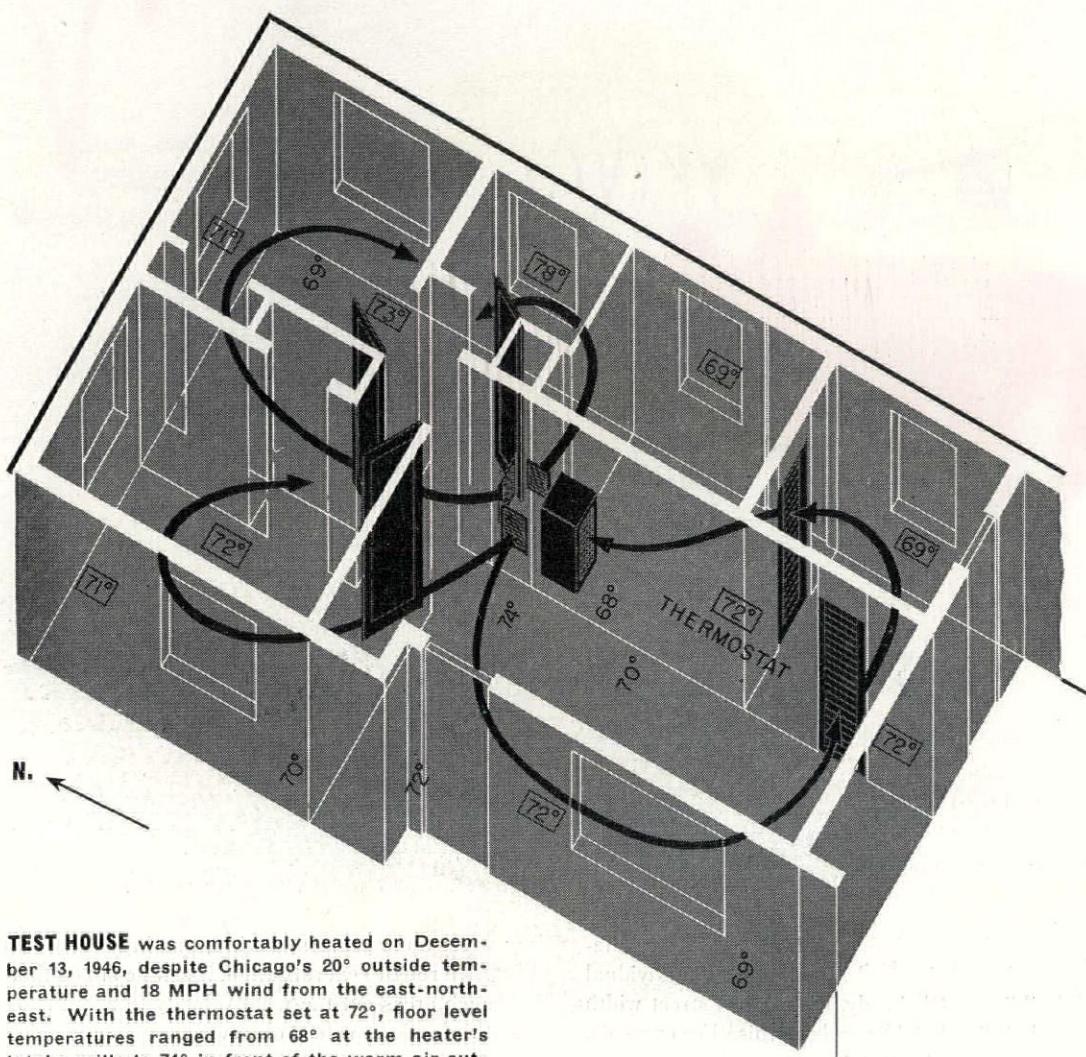
Sunshine, however, is not an unmixed blessing. In summer it can be a real nuisance. The surface which it strikes make a marked difference in the microclimate. A tar paper roof in summer, for example, can reach temperatures of 190° F.; on glass skylights, temperatures of 127° F. have been measured. Wooden floors directly exposed to the sun through glass windows can get as hot at 120° F. Glass, in general, is a one-way street for sunshine. It acts as a radiation trap and only "sunbreaks," shades or awnings *outside* of the window can prevent this heating. Light-colored exterior surfaces are advantageous because they reflect a considerable portion of the radiation and show temperatures from 30 to 50° F. below dark surfaces in the same exposure. Conversely, however, light walls are hard on the eyes of passersby, as anyone familiar with Florida cities can testify. Here again is an argument for wide use of the natural shade of trees and vines.

Of all the factors affecting the microclimate of the city, least is known about what built-up

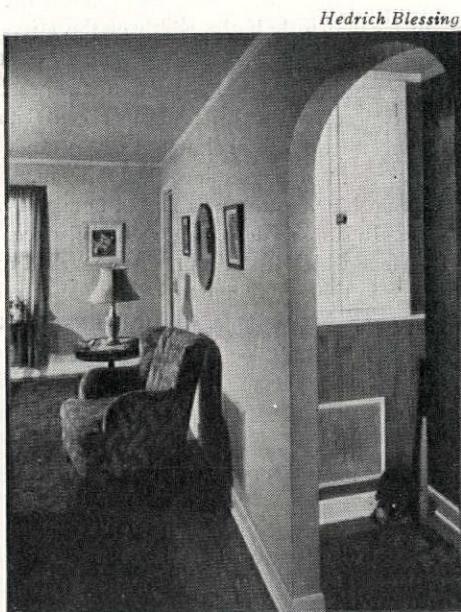
areas do to prevailing winds passing over them. As a rough generalization, it can be stated that such areas cut the wind velocity to about two-thirds of the values observed over free terrain. Yet in our canyon-like streets a great number of freakish effects can be noted. The most obvious one is the so-called funnel effect, whereby the velocity of the wind may easily be doubled—from 20 mph. to 40 mph. Other measurements show that if wind hits a built-up street at an angle of about 45°, currents of quite high velocity will move down the windward side, while slower currents will move in the opposite direction along the leeward side (Fig. 17). These currents will be further complicated locally by the presence of tall buildings, whose sunheated surfaces can set off convective currents of gale-like proportions. (Fig. 19). This suggests that, if enough were known about the factors involved, buildings could be so designed and grouped that these man-made winds could be largely controlled.

One of the surest ways of improving the performance of individual buildings and whole cities would be to incorporate microclimatic knowledge into their design. Cooperation between architects and climatologists will yield designs better adapted to their natural environment. Buildings should blend harmoniously with the visible landscape; but they should also recognize the invisible, but important, configuration of their microclimate. If, in addition, the landscaping respects the microclimatic principles already described, there can be little doubt that cities would be much more comfortable, winter and summer.

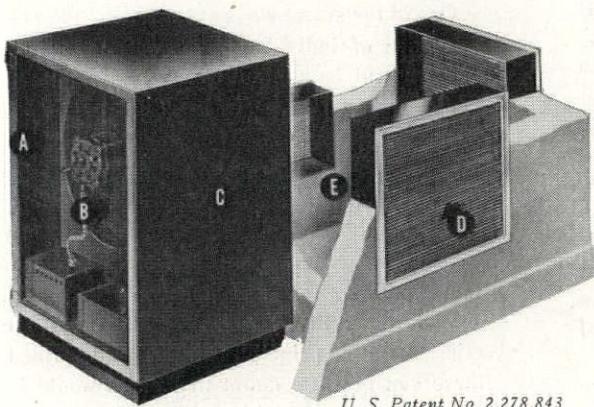
SMALL HOUSE HEATING SYSTEM employs doors and rooms as valves and ducts for efficient circulation of warm air.



TEST HOUSE was comfortably heated on December 13, 1946, despite Chicago's 20° outside temperature and 18 MPH wind from the east-north-east. With the thermostat set at 72°, floor level temperatures ranged from 68° at the heater's intake grille to 74° in front of the warm air outlet. At the breathing level (readings taken 42 in. above the floor and shown in rectangles above) temperatures ranged from 69° near windows to 78° in the superheated bathroom. Maximum floor-to-breathing-level gradient in any room was only 4°—in the sunless, windward, northeast bedroom. Comparison of these temperature readings with those obtained in a test by the Pierce Foundation of a comparable house heated by a gravity warm-air floor furnace indicates that the forced circulation of air and its downward deflection produce a more evenly heated floor and about half the temperature gradient between floor and breathing level. A basementless structure veneered with brick over insulating sheathing, the test house was insulated with 2 in. of rockwool in the ceiling and a paper-on-felt barrier in the double wood floors, had no weatherstripping nor storm windows.



Hedrich Blessing



U. S. Patent No. 2,278,843

SPACE-SAVING EQUIPMENT includes (A) fan guard and filter screen, (B) large propeller-type fan, (C) metal casing enclosing heat exchanger and burner, (D) directional grilles and (E) small plenum, which goes under the hall linen closet as shown in the above view of a typical installation.

Spurred by the fact that many small houses are heated either with modified versions of large-house heating systems, or supplied only with space heaters of doubtful efficiency, Mechanical Home Systems, Inc. of Chicago has developed a simple but carefully engineered system specifically for the minimum house. It capitalizes on the fact that most small houses are similar in floor plan. In essence, it consists of a strategically located heater and plenum chamber with three outlet grilles. As installed, it uses various interior doors and spaces as valves and ducts for the planned circulation of warm air.

Several hundred installations of the so-called "mechani-core" were made immediately prior to the war and, with resumption of their activities, the sponsors have recently sounded out the users on the unit's performance and made temperature tests of a typical installation. Both surveys produced encouraging results. Homeowners commented favorably on the system's comfort and economy; tests showed an efficient distribution of heat throughout the house and a maximum gradient of only 5 degrees between floor and breathing level. Both check-ups were made in notoriously cold Chicago.

Although easily adaptable to houses with basements and second floors, the "mechani-core" system usually serves the one-story house whose rooms are compactly arranged as in the test house shown to the left. A cubical plenum chamber is centrally located in the lower half of a small hall closet which backs up on the heat exchanger in the utility room (or kitchen). This gas-fired unit has an output of 68,000 BTU's per hour (reducible by 30 per cent) and is equipped with a 1/20 HP motor, propeller-type fan and air filter. Heated air at a velocity of 250-300 ft. per minute is directed through a small louvered outlet into the bathroom and through larger outlets toward the open bedroom doors and into the living room. Both of the larger outlets discharge the air with a fixed 20 degree downward deflection and are equipped with sideward deflecting vanes which properly "aim" the airstream. A proportioning damper within the chamber or "heat director" divides the air (800 cu. ft. per minute) between the various outlets.

Air delivered to the bath and bedrooms loses its heat as it travels through these spaces, escapes through the open doors into the hall and out through the opening into the living room. Here this cooler air is mixed with and entrained by the heated airstream from the living room grille. After circulating around the walls of the living room, the air passes through louvered doors into the kitchen and utility room, motivated by the suction of the heater fan. To obtain optimum heat distribution in the kitchen and

(Continued on page 122)

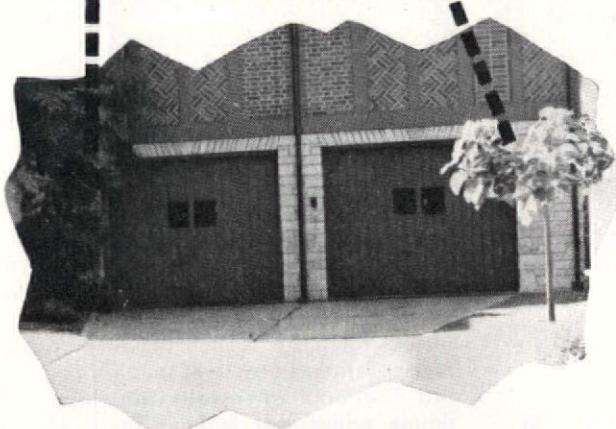
for the OTHER "FRONT DOOR"
Specify
Rō-Way OVERHEAD TYPE DOOR



With today's garage being built "Up Front" as an integral part of the modern home, the appearance of the car entrance becomes almost as important as the front door.

When you specify RO-WAY Overhead Type Doors, you're selecting a door designed for "good looks," as well as for extra durability and easy operation. Your clients will like the smooth way these doors "float up" and "glide down" . . . without sticking or sagging.

RO-WAY OVERHEAD TYPE DOORS are easy to operate in any kind of weather and give lasting satisfaction and service because they have these FIVE exclusive improvements—



1. FRICTION-REDUCING TRACK
2. "DOUBLE-THICK TREAD" TRACK ROLLERS
3. "TAILOR-MADE" POWER SPRINGS
4. "CROW'S FOOT" OUTER BEARING SUPPORT
5. RUSTPROOF HARDWARE

Dependable RO-WAY sales and installation service is available all over America. Write for free catalog. See our catalog in Sweet's.

ROWE MANUFACTURING COMPANY

919 HOLTON STREET

GALESBURG, ILL., U.S.A.

There's a Ro-Way for every Doorway!

PRODUCTS AND PRACTICE

That's* for Me!

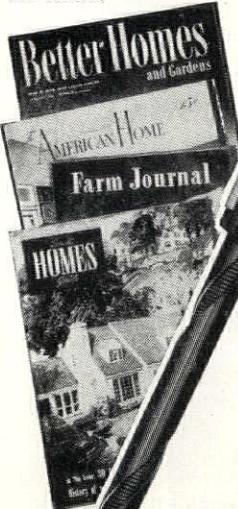
decides

Mrs. Doakes

Trust a good housekeeper
to know what's what in
smooth-working window
hardware . . .



And 134,456,000 magazine readers agree with her. Forceful advertising in leading home service magazines is now carrying the Grand Rapids "Invizible" story to millions of convenience-conscious home-planners and home-makers. (Also widely advertised in trade journals to architects, builders and dealers.)



*She means the

GRAND RAPIDS
Invizible
SASH BALANCE

The dependable spiral sash balance

Quickest and easiest of all balances to install—three screws do the trick. Performance-tested in the laboratory and in windows of thousands of pre-war homes. Perfect for large volume building operations because of speed and economy in installation. Simple adjustment without removing sash. Same size balance fits upper and lower sash. 10 standard sizes meet 95% of all your residential installations.

SEE OUR CATALOG IN SWEET'S

Complete data on specifications and installation

Write today for fully-illustrated, complete information on planning, sizes, installations, etc. for Grand Rapids Invizible Sash Balance.

GRAND RAPIDS HARDWARE COMPANY
Grand Rapids, Michigan

Grand Rapids Sash Pulleys

"The recognized standard of quality for a half century"

No. 103 face plate, cone bearing type and Nos. 175, 109, 110 sawtooth drive type sash Pulleys cover 95% of all sash pulley requirements.



HEATING SYSTEM cont'd

utility room, the two kitchen doors must be widely separated and the louvered door to the utility room must be diagonally opposite the heater.

Working hand-in-hand with the design of the house, the heating equipment produces notable conveniences and comforts:

- Served directly by the plenum chamber, the bathroom is the warmest room of the house—as it should be.

- At the other end of the cycle, the kitchen and utility room receive the least heat—also as it should be. They are work rooms which require less heat, contain heat-producing equipment of their own.
- Bedroom heat is "turned off" at night by merely closing the doors. Conversely, bedrooms warm up quickly when doors are opened in the morning.

- Discharge of the heated air at a low level and downward helps warm the floors, minimizes stratification.
- The system's simplicity cuts initial, operating and maintenance costs to the bone.

Since the "mechani-core" system relies about equally on architecture and heating equipment, it is not surprising that its inventor and patent holder is a man trained in both fields. President Rogers Follansbee was trained in architecture at



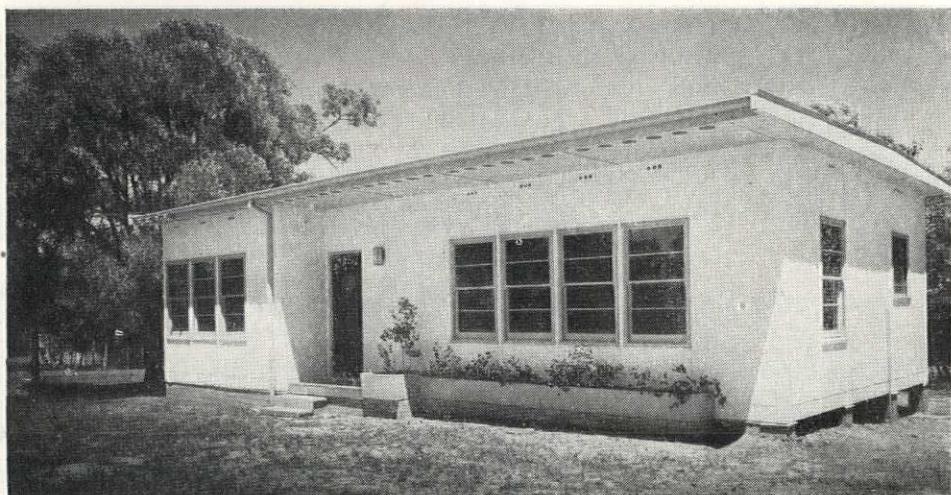
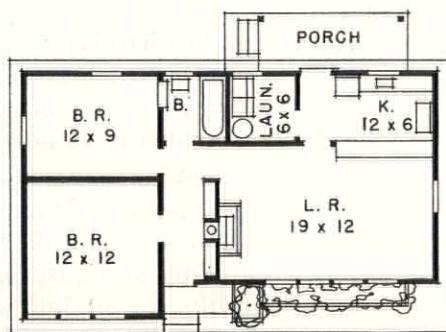
TYPICAL INSTALLATION in utility room.

Harvard, in heating and air conditioning at Trane Co. His proving grounds have been the Chicago sub-divisions of Operative Builders Arthur T. McIntosh & Co. and Smith & Dawson. The test house was built last fall by Smith & Dawson (from plans by Architect W. H. Kapple) at a cost of \$7,500, exclusive of lot. The heating contract was only \$275.

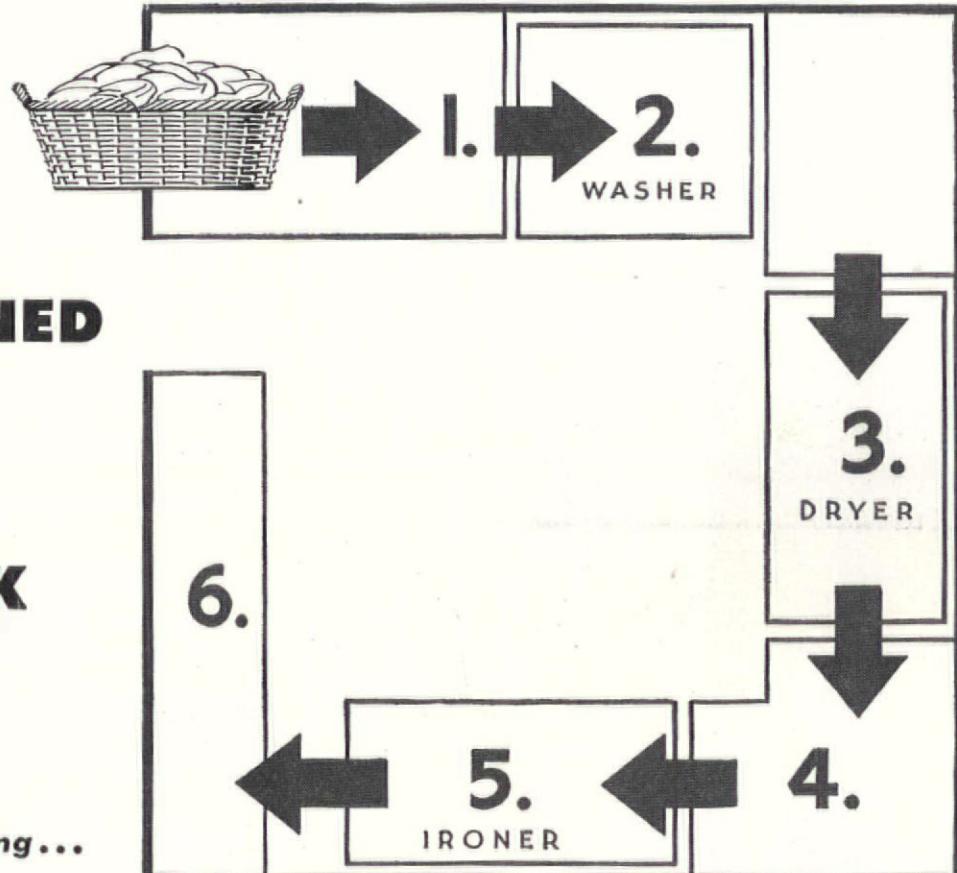
AUSTRALIAN PREFAB resembles American counterpart in design, fabrication and erection techniques.

Australia, with an acute housing shortage of her own, has begun to eye the prefab as a possible solution. One of the new models is the "Sectionit," manufactured by Vandyke Brothers Ltd. of Sydney. Resembling American prefabs in design, fabrication and erection techniques, the Vandyke house employs wood and plywood panels, 3 ft. wide by 9 ft. high, tongue-and-grooved for easy, fast erection. Panels are fastened to a floor plate with special clips, while a plate fixed

(Continued on page 124)



WOMEN WANT



Here's the work sequence of laundering...

1. PREPARATION—Mending, Sorting, Stain-Removal. Work table space needed. Clothes chute and single laundry tray or deep sink should be near this point.

2. WASHING—Soaking, Rinsing, Damp-Drying. All these jobs done in 4-square feet with the Bendix automatic Washer.

3. DRYING—Done right in the laundry, 365 days a year, with the Bendix automatic Dryer (gas or electric), requiring only 5.6 square feet.

4. SPRINKLING—The before-ironing sprinkling must have space and accommodation in the well-planned laundry.

5. IRONING—An adequate circuit for the automatic Ironer must be provided in the modern planned laundry.

6. STORAGE—Women will appreciate a location for the Bendix automatic Ironer near some shelf space and close to the entrance. These are the things a woman *does* in your laundry on washday—and this is the order in which they have to be done.

BENDIX HOME APPLIANCES, INC., SOUTH BEND 24, INDIANA

BENDIX WASHER ...



DRYER ...



IRONER



She demands labor-saving equipment: an automatic Washer that needs no attention, that doesn't have to be trundled about, that never slops the floor. She needs an automatic Dryer that frees her from waiting for weather and dries fast. She hails with delight the Ironer that means a new ease and speed in doing the ironing job.

And surveys continue to show that she knows Bendix automatic Home Laundry Appliances give her all this.

But she demands too that this equipment be arranged to the pattern of the washday job, so that the six steps come in sensible sequence and not in haphazard confusion.

That means your arrangement of space, lighting, outlets, gas lines, water-lines, and drain must follow the Six Steps of laundering sequence.

And your client will appreciate the thoughtfulness that inspired your planning.

BENDIX
automatic
Home Laundry

PRODUCTS AND PRACTICE



for Enduring Beauty

Architects, Craftsmen and Dealers who specify, apply and sell the original Ohio White Finish and its famous twin, Hawk Spread, know that the quality of these brands help to insure their reputation.

Both brands are scientifically processed from rock quarried from the heart of the world's purest deposit of dolomitic limestone . . . Both are always packed in distinctively striped Red Zig Zag Bags . . . the mark of enduring beauty for plastered walls and ceilings.

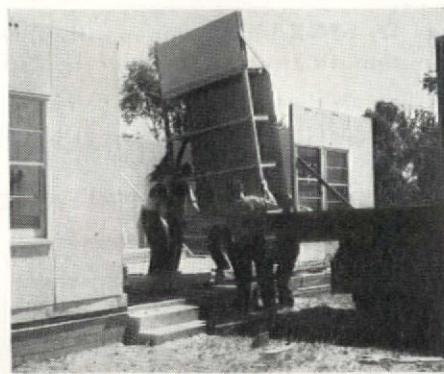


AUSTRALIAN PREFAB cont'd

along the top ties them into a solid wall. Door and window sections are delivered complete with doors hung and sash glazed. Special sections are made for flush switches, power points, bathroom cabinets, gas or electric water heaters and bathroom heaters. The ventilated roof comes in six sections. These units are insulated with fibre board; exterior covering is corrugated galvanized iron. Pictured herewith is the erection sequence which resembles typical American practice; note that ceiling and roof is installed as one unit.



WINDOW PANEL, complete with glazed sash and hardware, is positioned by two men (upper right). Door sections are also delivered complete with doors hung. After floor sections are placed, six men can erect conventional type wall panels (3 ft. wide x 9 ft. high), cupboard and roof sections in one day.



FACTORY-MADE kitchen cupboard being unloaded (upper right) is used as an integral part of the wall which divides kitchen and laundry. View of kitchen (above) shows cupboards and sink counter in place. Last of six roof sections is being positioned (right). A four-inch fascia is then fixed along front and back and roof is ready for corrugated iron.

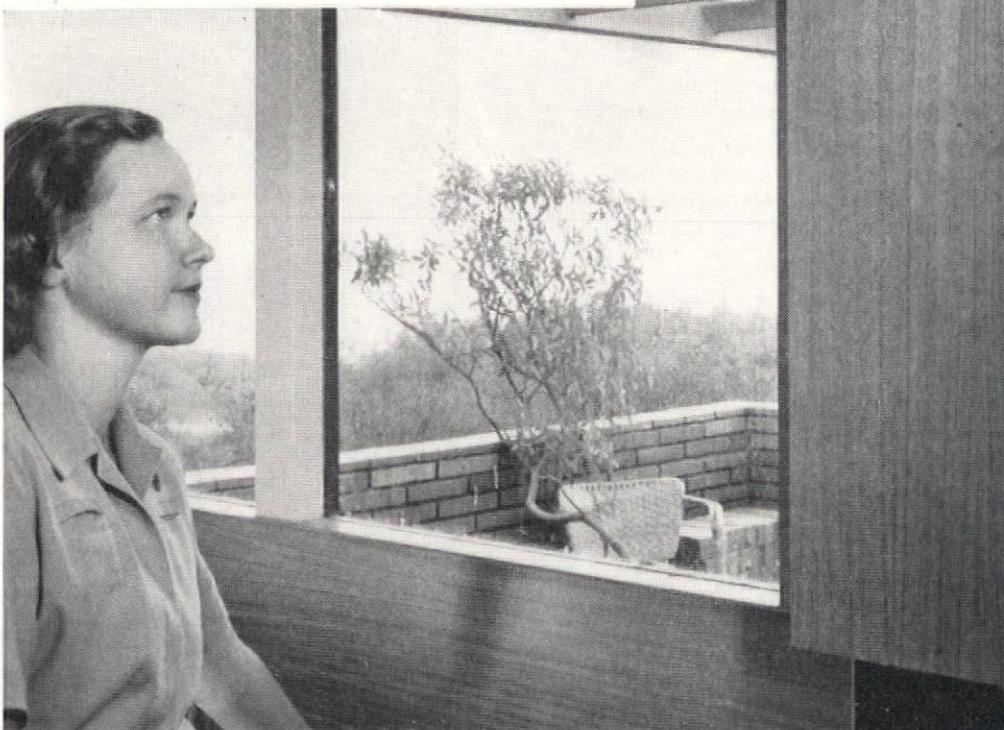


EXCLUSIVE!.....

nuTONE DOOR CHIMES "MERIT SPECIFIED" IN ALL CASE STUDY HOUSES!

• Here's the nuTONE Chime in Case Study House No. 16—one of a series sponsored by the West Coast magazine, *Arts & Architecture*. It's a combination nuTONE 2-door Chime and Telechron Clock—in a single compact unit that's easy to plan for, easy to install. Nine inches square; white enamel with chromium crystal case. Note the large, easy-to-read dial. Suggestions for wiring this nuTONE Door Chime and Clock and helpful planning material on other nuTONE Chimes are yours for the asking. Write or phone your nearest nuTONE office.

RODNEY A. WALKER, prominent West Coast architect, designed and built Case Study House No. 16, using a time-saving modular system he originated several years ago. Plates are drilled every three feet—each dimension being a multiple of thirty-six inches. Studs are drilled at both ends. Hardwood dowels inserted into the holes permit the framework to be assembled "Tinker-Toy" fashion.



(Above) nuTONE Door Chime and Clock (list, \$14.95) in kitchen of Case Study House No. 16



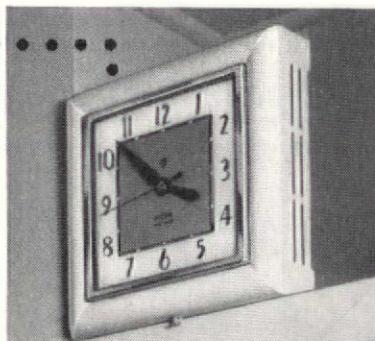
CASE STUDY HOUSE NO. 16 is only one of the homes being built for public demonstration in southern California by the magazine, *Arts & Architecture*. Object of the program is to show results of the best thinking both by designers and by manufacturers of the equipment and accessories that complete a modern home. Specification of products, from building materials to bottle openers, was based on merit alone.

nuTONE IS THE
WORLD'S LARGEST
MAKER OF
DOOR CHIMES



...better living means better listening, too!

nuTONE, INCORPORATED, MERCHANDISE MART, CHICAGO 54;
200 FIFTH AVE., NEW YORK 10; 931 EAST 31st ST., LOS ANGELES 11; TERMINAL SALES BLDG., SEATTLE 1



PRODUCTS AND PRACTICE

**WILL YOUR CLIENTS
get all steamed up?**



Provide for controlled air changes in rooms that develop circulation overloads

• Normally calculated changes of air will not be adequate for certain rooms. Bathrooms and kitchens develop ventilating overloads at specific times during the day—bathrooms especially need

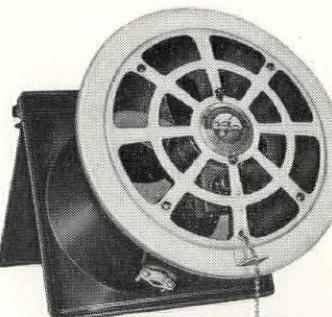


VENTILATING FANS



There's a VICTRON model for every requirement . . .

Associate Victron Ventilating Fans with bathrooms, kitchens, recreation rooms and laundries. There's a Victron model for every requirement . . . for palatial home or modest bungalow. Provide 550 to 700 cubic feet of free air movement per minute. Designs are attractive yet unobtrusive. Installed in wall or ceiling—in new or remodeled houses.



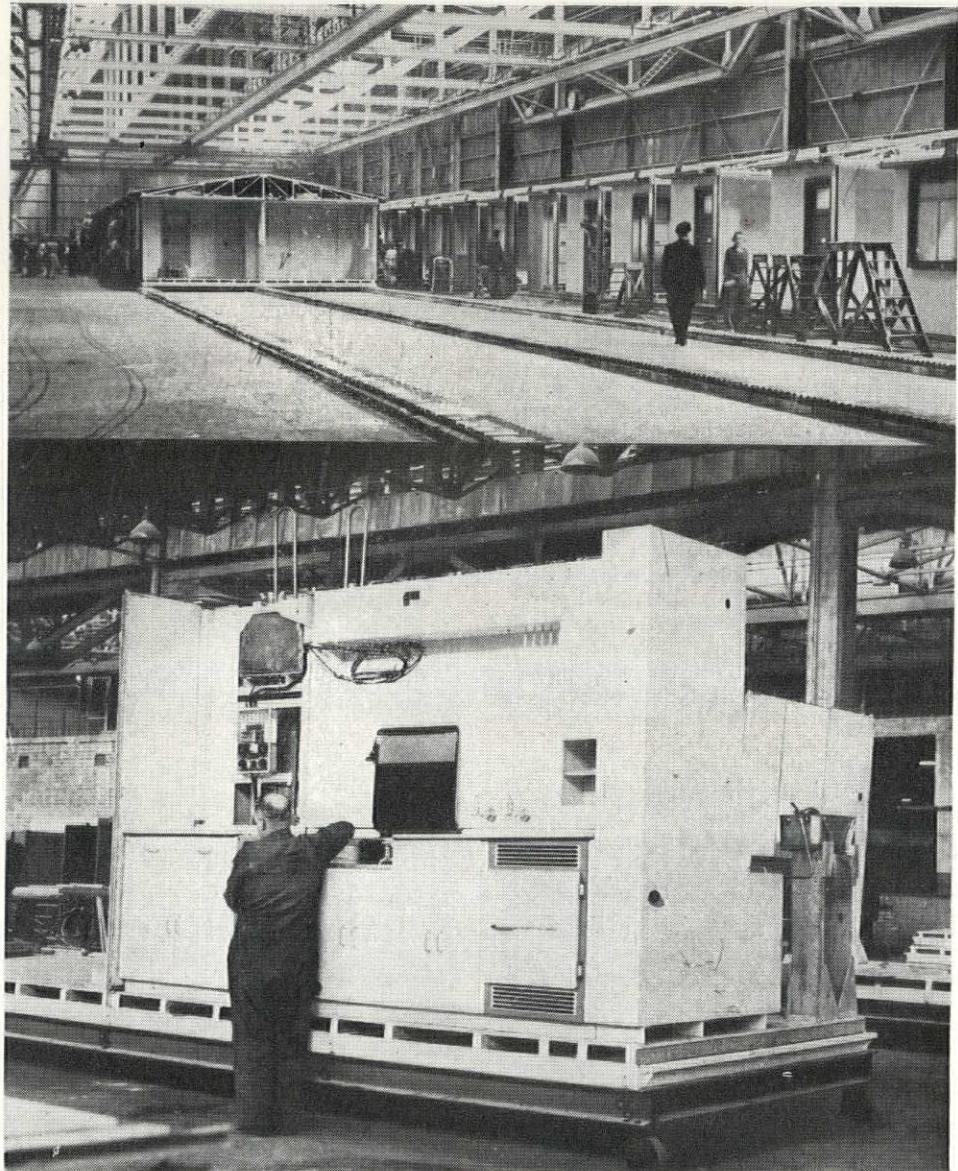
Write for specifications on all models or refer to 1947 Sweets Architectural File 29B 14

VICTOR
PRODUCTS
2950 Robertson Ave.



ELECTRIC
INCORPORATED
Cincinnati 9, Ohio

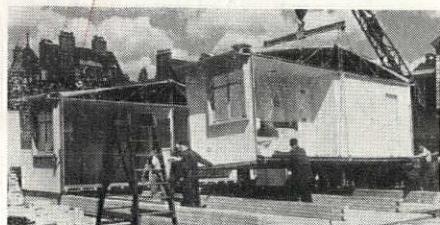
ALL-ALUMINUM PREFAB is sectional, has integral kitchen-bath-utility unit.



The converted Hawkesley Aircraft factory at Gloucester, England, is now turning out this aluminum prefab at the rate of 250 per week. Like the TVA's famous sectional house in this country, the four-room Airoh house is trucked to the site in three bays. When bolted together on the concrete foundations, these yield a complete, ready-to-move-into house. One section (right) contains kitchen and bath equipment, house and hot water heater and electrical system, powered by either gas or electricity. This utility core, also of aluminum, resembles several post-war units of similar design in this country. Although Airoh is restricted to one model, the structural system has the advantages of economy in both factory and site labor. The plant can produce a complete house in two hours, while a gang of six men with a light crane can erect it complete (except for foundations) in three hours.



UTILITY CORE is trucked to site (above) and lowered onto its foundation by crane (below).





**For Radiant Heating, long lengths of
Copper Tube^{*} are easily handled**

IN radiant heating, the light weight of Chase Copper Tube is an outstanding installation advantage—particularly for ceiling mounting.

Coils up to 100 feet long can be held in position by a single workman, while a second bends the tube and fastens it in place. Or the coil may simply be slung over a nearby wall hook.

Use of these long coils—combined with copper tube's ease of bending—cuts down to a mini-

mum the number of joints necessary. And where joints are needed, they are quickly made with solder-type fittings.

The demand for Chase Copper Tube—result of its many advantages—is so great that we cannot meet it at all times. Information on radiant heating, however, is available for your use now to aid in your future planning.

For copies of our radiant heating literature, write on company letterhead, to Dept. AF37.

7 Reasons

WHY CHASE COPPER TUBE FOR RADIANT HEATING

- 1. EASY TO BEND
- 2. LIGHT IN WEIGHT
- 3. SOLDERED FITTINGS
- 4. SMALL DIAMETERS
- 5. LONG LENGTHS
- 6. LOW COST
- 7. LONG LIFE



Chase
BRASS & COPPER CO.

This is the Chase Network—handiest way to buy brass

INCORPORATED

ALBANY† ATLANTA† BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON† INDIANAPOLIS JACKSONVILLE† KANSAS CITY, MO. LOS ANGELES MILWAUKEE
MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER† SAN FRANCISCO SEATTLE ST. LOUIS WASHINGTON† ([†]Indicates Sales Office Only)

Waterbury 91, Connecticut
SUBSIDIARY OF KENNECOTT COPPER CORPORATION

ATLAS LABOR-SAVING SPEED FORMS

**SPEED
PLUS
ECONOMY
WITH
LABOR-SAVING
ATLAS SPEED FORMS**

WHEN LEADING Architects, Engineers and Builders everywhere use and recommend the Atlas process of Concrete Form Construction again and again on job after job you can be sure of this—it is doing a better job at a worthwhile saving in time, material and money compared with the forms previously used. Savings of 25 to 50% are not unusual with Atlas SPEED Forms.

A Designed Steel Form with strength built in—good for re-use indefinitely without repair. Easy to assemble with non-clog wedge bolts—only a hammer is needed . . . a particular advantage where skilled labor is scarce, for semi-skilled or unskilled labor can set, move and strip these new forms easily and rapidly.

Forms line up straight and true. No studs needed in wall forms, no joists in slab forms. Adjustable to suit any condition.

Available Now For Early Delivery

Write For Complete Facts and Prices

Irvington Form & Tank Corp.

WRITE Dept. A

New York City Sales Office: 43 Cedar Street

IRVINGTON 24, NEW YORK

Telephone BOWling Green 9-4030



Some More Users

The Austin Company
Brown & Matthews
V. Barletta
Caisson Foundation Corporation
Clevorock
Consolidated Engineering Company
Cayuga Construction Company
Day & Zimmerman
E. I. du Pont de Nemours
James Stewart & Co.
Sinclair Refining Co.
McCloskey Homes



Forms are set and moved most economically in large panels by using a crane, but can be easily set, stripped and moved in smaller units by hand. Weight per unit only 45 lbs.

Atlas Labor-Saving Concrete Forms for every Purpose

AVOID

"peas-in-a-pod" monotony



INDIVIDUALIZE homes
with **BONDEX** colors!

Give a man a house that expresses his own ideas and he's satisfied. That's why "exterior decoration" with Bondex is indicated in so many low-cost housing projects.

For "mellowing" concrete block, for adding distinction to stucco, brick and masonry, color-style with Bondex, the patented cement paint which bonds with the wall surface to seal out dampness.

BONDEX beautifies basements, too

To make the most of every inch of space, show basement areas to best advantage by painting the walls with attractive Bondex colors. This treatment converts an otherwise drab area into an attractive, dry work-or-playroom which the whole family will appreciate.

THE REARDON COMPANY • St. Louis 6 • Chicago 9
New York 6 • Los Angeles 21 • Montreal 1

Bondex is a patented formula so unique that it outsells all other cement paints combined

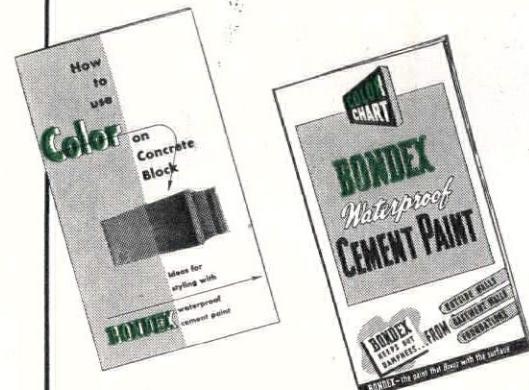
BONDEX

THE *Patented*
CEMENT PAINT

**12 SHADES AVAILABLE
IN NEW COLOR CHART**

Dutch White	Tropical Coral
Old Spanish White	Spanish Buff
Oyster Shell	Monastery Gray
Antique Ivory	Grotto Blue
Carthage Cream	Ivy Green
Adobe	Brick Red

Also, Pure White



**SEND FOR
THESE FOLDERS**

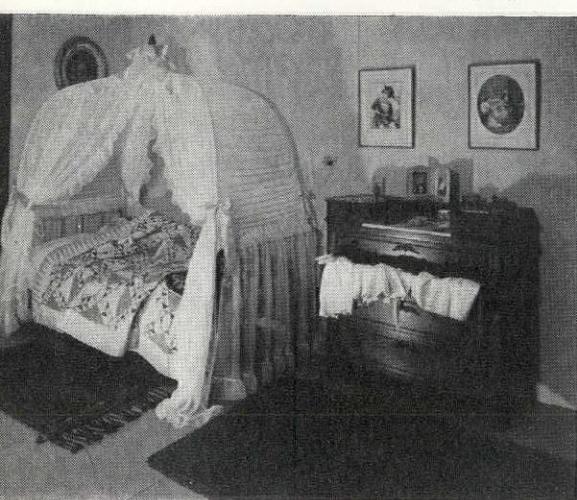
These Bondex folders dealing particularly with color should be in your hands. Write to nearest Reardon Company office.



John Henry Belter . . .



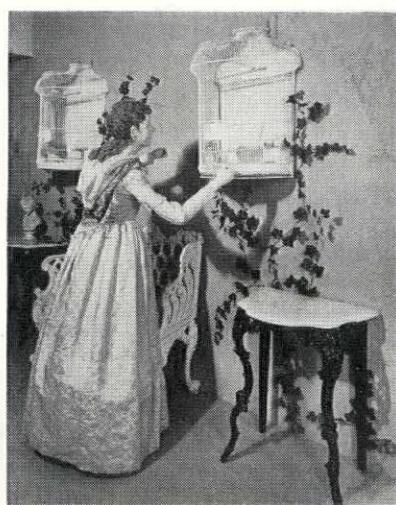
Hartford grandparents . . .



. . . liked frills and gadgets . . .



. . . made these chairs.



. . . and birds in cages.

VICTORIAN ARTIFACTS

Among the more revolutionary modern architects, there are those who insist that all museums should be abolished. There is much to be said for this point of view, considering how unfortunately many people follow the past, copying all of its vices of design as well as its virtues just because their ancestors designed that way. Considering how much of the atrocious is preserved to be dutifully copied, it would seem easier to wipe out all museums than to fine-comb them for such pieces from the past as are worthy of note.

But sometimes the good and the bad are so irrevocably mixed that such a sweeping-out cannot be achieved. In repudiating a piece for bad design, one might also repudiate an interesting bit of experimental technique; or in rejecting a piece for bad craftsmanship, one might also reject an original new concept of design that would be worth preserving and developing. So long as museums are subject to a spirit of enquiry and whimsicality, as is the Wadsworth Atheneum of Hartford, Conn. in its recent exhibition "This Was Hartford: Victorian Silks and Settings," they contribute to the growth and development of new ideas, not just to a worship of the past for its own sake.

In a series of Victorian rooms installed at the Atheneum, there are a few ideas of interest to our own generation: two chairs, for instance, attributed to the New York cabinet-maker, John Henry Belter, who was active from 1840 to 1860. Belter was an experimenter of exceptional ability who, in his use of laminated wood, anticipated modern furniture construction. He has used bent wood and paper-thin rosewood veneer for the backs of his chairs. These laminated chairbacks have been carved in open patterns of leaves, scrolls, garlands, etc., in the elaborate ornamentation beloved by our grandparents (see cuts).

Another interesting technique has been used in the collapsible folding iron bed, with iron ribs for a voluminous concealing canopy. (The canopy seen in the cut, stitched by some of the modern pro-Victorian enthusiasts who prepared this exhibit, contains nearly 70 yards of ruffles and blue satin bows.) The bed can be folded up into a compact and easily transportable package.—E. B.

POSTWAR GLASS

"GEMMEAUX" is the name Jean Crotti of France has given to his new art form recently exhibited at the Office of the Cultural Attache of the French Embassy in New York City. Gemmeaux is a combination of glass and plastic (or "chemical glue", as Crotti calls it) that creates an effect like the fusing of gems and enamels. The new method, frankly experimental, should stimulate artists and architects with its many possibilities.

Between a sandwich of two sheets of plate glass, Crotti has mingled many bits of broken or cut glass in myriads of colors, overlapping and intermingling and holding them in place by a translucent gluelike medium. He has worked with these glass bits as an artist works with pigment, building up his final painting so that it gives the effect of a new type of stained glass, three-dimensional in quality and hence glowing and shifting in color with changes in the point-of-view. In the exhibition the glass panels were mounted in place like stained

(Continued on page 132)



In Babylon, N. Y., buyers all sang the same song!

It's plain as day to Frank Swanson, president of Swanson, Inc., Timken dealers in Babylon, N. Y.—*Buyers prefer to wait for Timken Oil Heat, rather than accept immediate delivery of any other make.*

Here's Timkeneer Swanson's experience:

Six homeowners in one city block had placed orders for Timken Wall-Flame Oil Burners. Naturally, all of them wanted installation at once.

Timkeneer Swanson was installing Timken Wall-Flame Oil Burners as rapidly as received, and in sequence of orders. But to help these six homeowners, special arrangements were made for installation of a few pressure burners of a well-known make.

And what happened when Frank Swanson suggested this scheme? He got a flat "NO" for an answer. Every one of the six said, "No thanks! I'd rather wait for a Timken."

Exceptional? No, not at all! It's a story that has been repeated time and time again across the

country. Timken Dealers find cancellations as scarce as the proverbial hens' teeth. *The more burners Timken Dealers receive (and they're receiving them at a record rate), the longer their waiting lists grow!*

There's one simple reason: *Homeowners are convinced that Timken quality is the best possible buy.*

Brand preference for Timken grows more marked every day, and that's a song architects and builders enjoy!

TIMKEN
Silent Automatic
HEAT

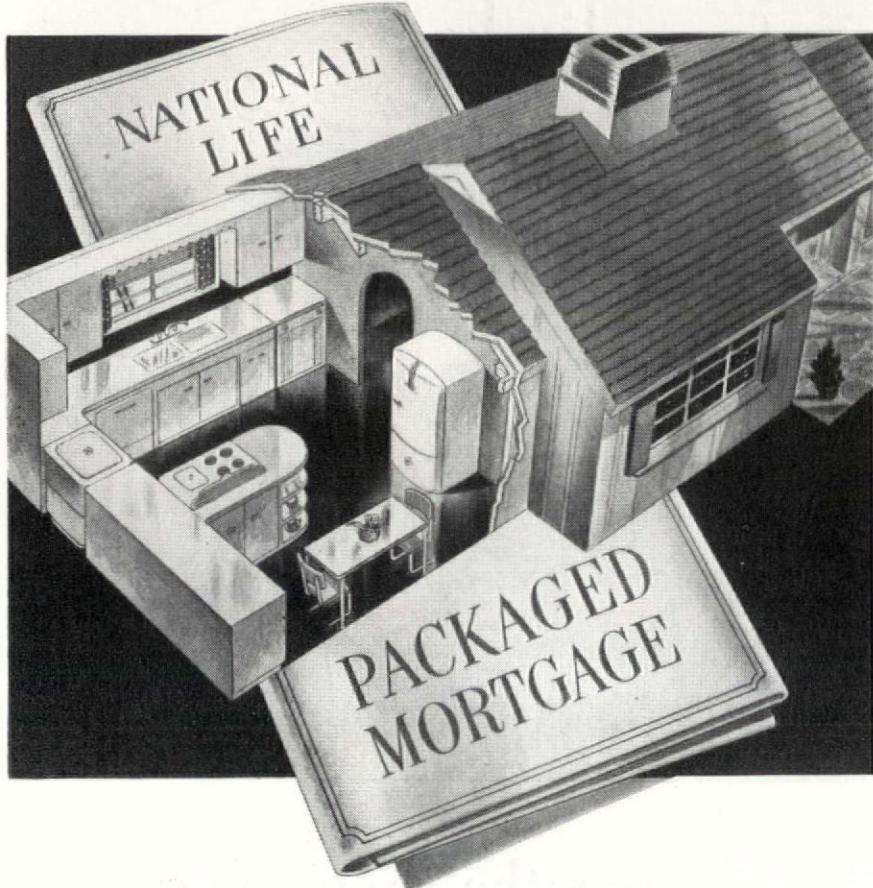
TIMKEN SILENT AUTOMATIC DIVISION

The Timken-Detroit Axle Company

JACKSON, MICHIGAN



What's A Home Without A Kitchen?



Modern Plan includes Appliances as Real Estate

Now your clients and prospects can include the cost of their major new household appliances in one convenient mortgage contract, along with house and land. Ranges, refrigerators, home freezers, dishwashers, garbage-disposing sinks, and home laundry equipment all come under the lien of National Life's "Packaged Mortgage." Home-buyers deal with only one lender, have no extra bills right at the start, actually save money over conventional installment financing. Get the facts on this new plan that makes houses easier to buy . . . easier to sell. Send coupon below now.

NATIONAL LIFE INSURANCE COMPANY HOME OFFICE — VERMONT

A Mutual Company, founded in 1850, "Solid as the granite hills of Vermont"

— CLIP AND MAIL THIS COUPON NOW —

NATIONAL LIFE INSURANCE CO., DEPT. M-7, MONTPELIER, VT.

Please send me full information on your new, low-cost, all-inclusive plan for home-financing, and address of your nearest loan correspondent.

Name

Business or Home Address



glass windows, and lighted from behind to bring out their patterns.

Mr. Crotti, a painter for many years, became interested in this new technique shortly before the war interrupted his work in Paris. His first exhibition of the completed "gemmeaux" was held in Paris about a year ago, and although so far none of his work has been installed architecturally, he now has a commission for windows to be incorporated in a church in France. He has tested the new medium for heat, cold, and weathering, and believes that it can be used not only for interiors but will withstand exterior-interior temperature differences.

The method whereby Mr. Crotti and his assistants make up their panels is to use a horizontal sheet of glass as a base, applying the liquid cement and the bits of glass in a design copied from a sketch in outline form and from a painting in full color. He has improvised freely: some of the glass bits are finely ground, others coarse; some are cut symmetrically others are jagged and roughly broken; some are applied in single layers, others superimposed and intermingled tier on tier. For most of his panels he has copied well-known works of painters such as Roualt (whose paintings follow so closely the traditional composition of stained glass); Picasso; Braque; Matisse. When the complete reproduction in glass-and-glue has been built up, an upper layer of plate glass is laid over the work to seal up the painting and hold it in place. In this way, lead borders between the design elements are not needed, and there is a clear flowing and intermingling of colors. In some cases he has accentuated the design with bits or strips of dark glass having the effect of lead, but usually he has created an effect more like painting with no sharp divisions.

Not only is the medium itself an interesting experiment, but Mr. Crotti has tried many variations and developments of the material: working sometimes to give an effect like the pointillist paintings of Seurat; at other times to give the effect of mosaics laid regularly; occasionally incorporating glass bits that have a pre-stamped pattern. Mr. Crotti did not indulge the secret of his "chemical glue," but some of the plastics readily available in this country could probably be used in the same way. Some years ago Charles Connick of Boston experimented in a very small way with the idea of embedding stained glass pieces in transparent plastic, but he never conceived anything as richly variable as these French panels.—E. B.

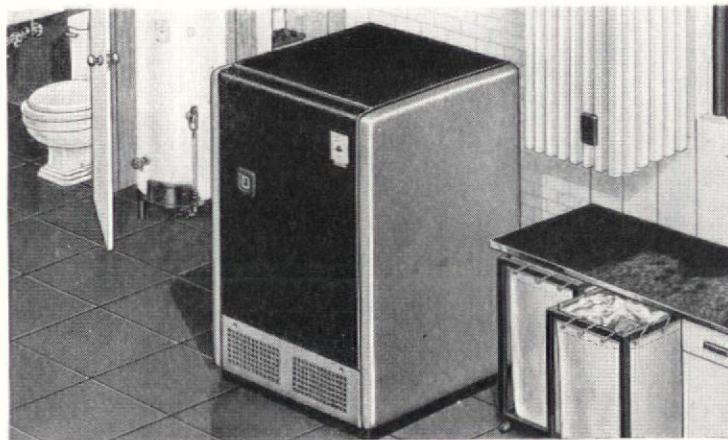
BOOKS

EFFECT OF THE CORPORATE INCOME TAX ON INVESTMENT IN RENTAL HOUSING. Randolph Paul and Miles Coleen. 24 pp., \$1. National Committee on Housing, Inc., 1 Madison Ave. New York City.

One reason why the industrial revolution skipped house-building—and left one-third of the world's richest nation permanently ill-housed and the other two-thirds victim of recurring housing shortages—is that large capital resources never have been attracted to this kind of production. House-building, its sheer bulk and its strategic relation to the total economy, is very Big Business indeed, but it still relies for financing on a mortgage system dating back, in all its main points, to the 15th century. Like the antiquated mortgage system, the real estate tax dates back to a time when the ownership of real property was a fair measure of total

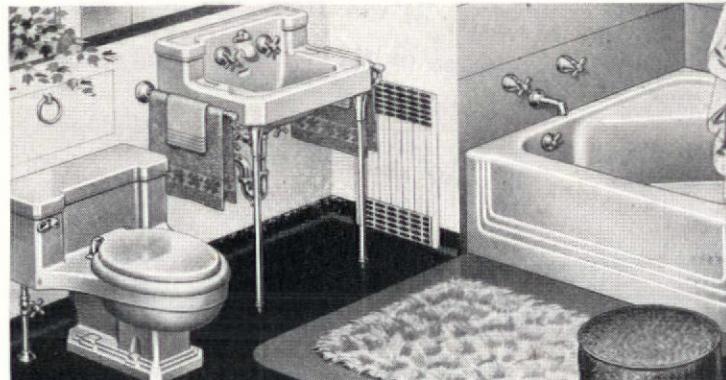
(Continued on page 134)

Right in Design and Engineering ...



The EMPIRE Gas Boiler has all the features essential to perfect performance, including patented pin type cast iron sections—the most effective type of cast iron heat absorbing surface; water filled sections entirely surrounding the combustion chamber to permit locating boiler on same floor as water radiators; and sections joined with gas-tight, metal-to-metal fit to assure maximum combustion efficiency.

Right in Style and Quality ...



The NEO-ANGLE Bath in this attractive room is approximately four feet square, yet it provides roomier bathing space than most baths. Two integral seats and broader, flatter bottom bring new convenience, comfort and safety to bathing. The harmonizing COMPANION Lavatory and the MASTER ONE-PIECE Closet are of genuine vitreous china. All three pieces available in white and choice of many colors. Unique details of this bathroom are described and illustrated in your copy of the American-Standard Room of the Month Ideas folder for March.

AMERICAN-STANDARD

HEATING PLUMBING



■ You can put American-Standard Heating Equipment and Plumbing Fixtures in your plans with assurance that they will be *right*. Right in design . . . in size . . . in style . . . and in quality. And you can be sure of client satisfaction. For these performance-proved and widely advertised products enjoy a public acceptance second to none! Yet, American-Standard products cost no more than others . . . and they're available for your modernization jobs on a convenient Time Payment Plan. For details, see your Heating and Plumbing Contractor. **American Radiator & Standard Sanitary Corporation**, P. O. Box 1226, Pittsburgh 30, Pennsylvania.

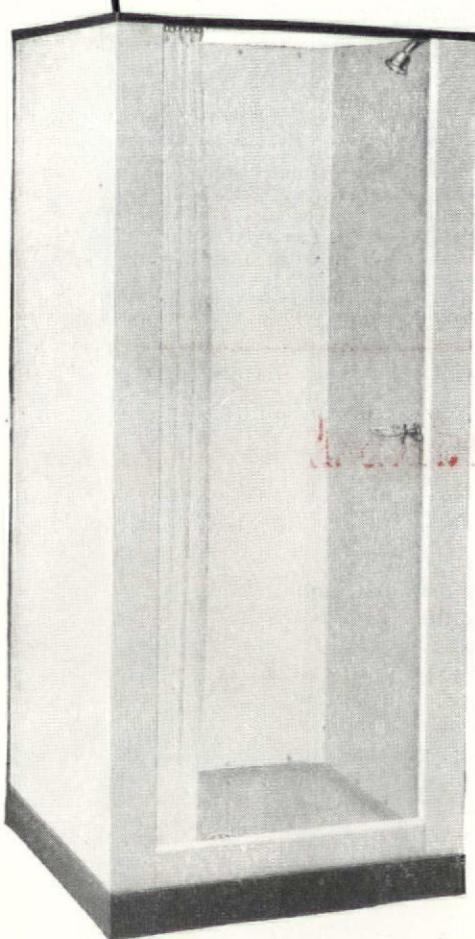
Serving the Nation's Health and Comfort

LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, Water Heaters, for all fuels—Radiators, Convector, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships, and Railroads.

FIAT Skipper

*... solves the bathroom
problem for low cost housing*

- Low installed cost
- Minimum floor space required
- According to surveys made at camps the majority of Veterans, both men and women, have expressed a preference for shower bathing
- Fiat Skipper showers are available



Specifications

SIZE—32x32x76.

WALLS—BONDERIZED, GALVANIZED STEEL. Finished inside and out with white baked-on-synthetic enamel.

RECEPTOR—Semi-flat standard type Stonetex; slip-proof, leak-proof, non-absorbent. Brass drain for 2" waste connection cast integral with receptor.

VALVES—Combination hot and cold compression valves with shower head and arm.

ACCESSORIES—Curtain rod and curtain.



FIAT METAL MANUFACTURING COMPANY

1205 Roscoe St., Chicago 13, Ill.

21-45 Borden Ave., Long Island City 1, N.Y. • 32 S. San Gabriel Blvd., Pasadena 8, Calif.

wealth, and real estate owners still bear practically the whole cost of local government.

As if these handicaps were not enough to insure that housebuilding would forever be the stepchild of the industrial revolution, the federal government, while benevolently handing out housing subsidies with one hand, has reached out with the other to discourage even the small number of investors attracted to the rental housebuilding field. This it has done, as Randolph Paul and Miles Colean show in their careful study, by means of the corporate income tax.

Everyone agrees that what the housing-pinched U. S. needs is an adequate supply of rental housing. But rental housebuilding, considered as an investment opportunity, gets it in the neck both ways. On the one hand, it is taxed by local governments as if it were still the primary source of wealth which real estate represented in a much simpler economy. On the other, it is taxed by the federal government as if it were in exactly the same position as the manufacturing and financing enterprises that the corporate income tax was designed to fit. How far this is from the case is strikingly demonstrated by government statistics, cited in the Paul-Colean study: on real estate, the average rate of return on total invested capital in 1942 was 2.55 per cent—compared with 13.38 per cent for all industrial groups, 17.1 per cent for all corporations engaged in trade and 21.84 per cent for all manufacturing corporations.

Randolph Paul, former general counsel to the Secretary of the Treasury, and Miles L. Colean, well-known housing economist and former assistant administrator of the Federal Housing Administration, are well qualified to discuss elimination of the corporate income tax on rental housing. They present five detailed case studies of various methods of financing rental housing, which are worth the careful attention of anybody concerned with such investment.

Few will argue their conclusion: "Because of the relatively narrow margin of income on the typical real property investment, a corporate tax that absorbs any considerable amount of that return reduces the margin to a point where there is little incentive to take on the uncertainties and responsibilities peculiar to real estate investment." Thus, the investor prepared to put up a real equity will consider only the kind of development that can produce a high rental income.

Paul and Colean also show how the federal tax operates to encourage speculation in rental building, as opposed to "an actual cash outlay for the purpose of obtaining a steady, long-term yield." The largest number of investors in this generally unpromising field are, therefore, those "with a nominal, or even nonexistent, capital stake, who will seek to recover in the early years before the corporate income tax becomes hazardous in its effect."

The tax is a poor revenue producer, these researchers point out, averaging only \$30.5 millions per year in the 1938-42 period. Short of elimination of the tax on corporations investing in rental housing, they suggest giving such corporations an option to consider themselves partnerships for income tax purposes.

The Paul-Colean study makes its case convincingly while underlining the need for a consistent real estate tax policy—local, state and federal. It also underlines the need for a consistent national housing policy—that is, some real thinking through of the various stick-and-carrot gestures the government has made in this direction. The current housing

(Continued on page 136)

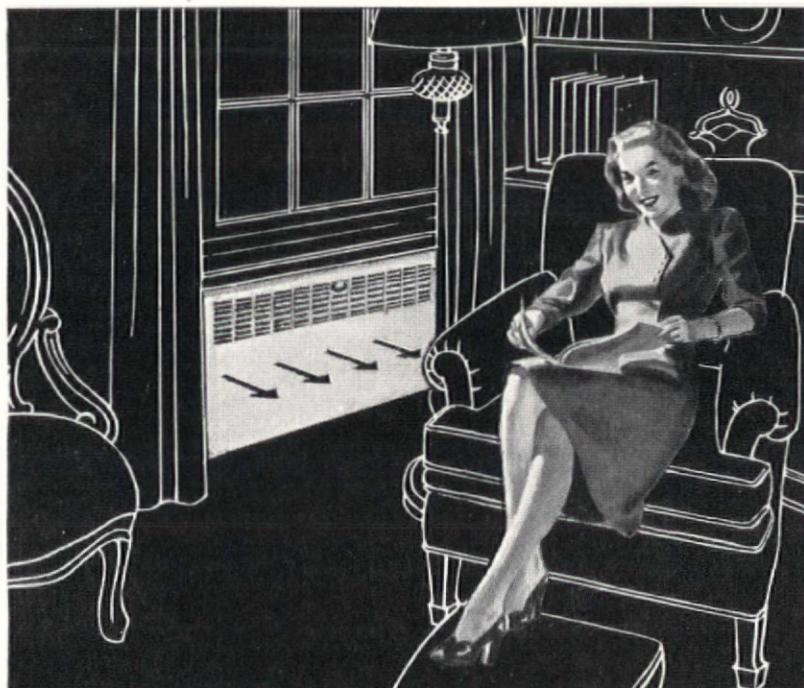
**My first choice
is radiant heat!**



**My first choice
is convection heat!**



Modine Convector Radiation gives you these two heating principles blended into one!



1

RADIANT HEATING

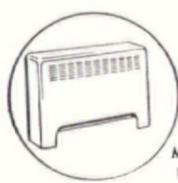
Mild, radiant heat in just enough quantity to offset heat loss from window areas — that's what those arrows represent, coming from the Modine Convector Panel below the window. To this we add . . .

2

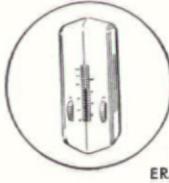
CONVECTION HEATING

Warmed air circulated by Convection Heating. Hot water or steam passes through copper heating unit which draws cooler, floor-line air into bottom of convector where it's warmed, rises and then passes out through grille.

Result: Dependable new heating comfort for moderate cost homes and apartments . . . distinctive room charm and cleanliness without unsightly radiators! Yes, Modine Convector Radiation provides a modern, blended heating system for modern living — a heating system that makes possible individual room control — that responds almost instantly to sensitive automatic controls — that gives you gentle air circulation without the use of moving parts that wear out. If you're planning to build a new home or apartment, specify Modine Convector Radiation . . . look for Modine's representative in the "Where-to-Buy-it" section of your phone book . . . write for complete information and free descriptive literature! MODINE MANUFACTURING CO., 1736 Racine Street, Racine, Wisconsin.



MODERN BEAUTY



CLOSE TEMPERATURE CONTROL



EASY TO INSTALL



ADDS TO LIVING SPACE



PRICED FOR TODAY'S HOMES AND APARTMENTS

Modine
CONVECTOR RADIATION

The Modern "proved by use" heating method

REVIEWS

Designed for FUNCTIONAL BEAUTY

Chromtrim METAL MOULDINGS

The design symmetry and dignity of line which Chromtrim Metal Moulding imparts to modern interior planning is one of the many reasons for its increasing popularity with architects, industrial designers and builders.



Wall paneling and surface covering of any color or texture is enhanced by the functional beauty of this easy to install metal trim. You can specify Chromtrim with complete confidence.



Chromtrim's fine quality, mechanical specifications, durable finish and ease of handling will contribute to the appearance and durability of every installation and bring equal satisfaction to you, your client and the mechanic who installs it.



80 dimensionally accurate profiles, designed in matching groups to serve every installation requirement. Sold only through a nationwide distributor organization. See insert in Sweet's Architectural File. Write for Chromtrim Catalog No. 2 today.

R. D. WERNER CO., INC.

Manufacturers of Metal and Plastic Products
295 FIFTH AVENUE NEW YORK 16, N. Y.
Factories: New York, N. Y. — Greenville, Pa.

crisis and the recent frantic and futile endeavors in Washington to do something about it bring the whole housing problem into dramatic focus.

The worst of it is that the government seems to be busy extending the carrot and then quickly snatching it away. The Federal Housing Administration has been holding meetings all over the country and offering many small carrots to lure building enterprise into rental housing. The Wagner-Ellender-Taft bill proposed yield insurance as the biggest carrot anybody could think of. But no Congressman or acting government official has yet thought far enough into the whole housing problem to suggest the simple step of eliminating the corporate income tax for rental housing corporations. As Paul and Coleen dryly put it: "The solution of our difficulties may as often lie in the removal of long-standing restraints as in the creation of new forms of stimulus and direction."—L. C.

SUNSET WESTERN RANCH HOUSES by the Editorial Staff of Sunset Magazine in collaboration with Cliff May, 158 pp. Illustrated. Lane Publishing Co., San Francisco, Calif. \$3.

Avoiding a hazardous attempt to define the infinitely variable ranch house, this book sets out to illustrate the many ways in which the ranch type of house "has prevailed in Western homes in the past, and how it may be built into them now." The authors stress a basic need for site-planning in conjunction with house design in order to safeguard the prime advantage of the ranch plan—free movement on a single level and informal indoor-outdoor living. Illustrating their points generously with sketches and floor plans, they present a variety of

(Continued on page 138)

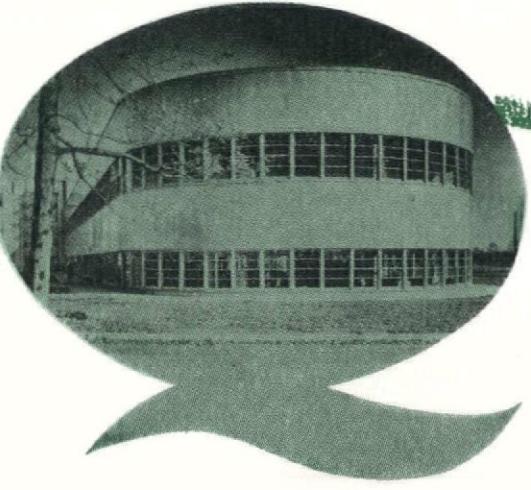


COSTS LESS Latest electronic manufacturing methods plus high volume production put Olsonite ahead of the field both in low unit cost and in speed of delivery.

LOOKS BETTER Olsonite will not chip or mar and resists acid or cigarette burns. Non-corrosive brass hinges are covered with Olsonite so that no metal is exposed.

LASTS LONGER Solid homogeneous plastic construction has no core to split or warp. There are no joints, seams or crevices to give way.

WRITE DEPT. AF 3 FOR INFORMATION
Swedish CRUCIBLE STEEL COMPANY
PLASTICS DIVISION
8561 BUTLER AVENUE • DETROIT 11, MICHIGAN



Q-Panels available now

AND LOOK WHAT ARCHITECTS ARE DOING WITH THEM!

● The scale model below shows how Giffels & Vallet, Inc., L. Rossetti, Engineers and Architects, visualize the new electronics laboratories now under construction at Nutley, New Jersey, for the Federal Telecommunication Laboratories, Inc. The 300' tower is in itself a microwave experimental laboratory.

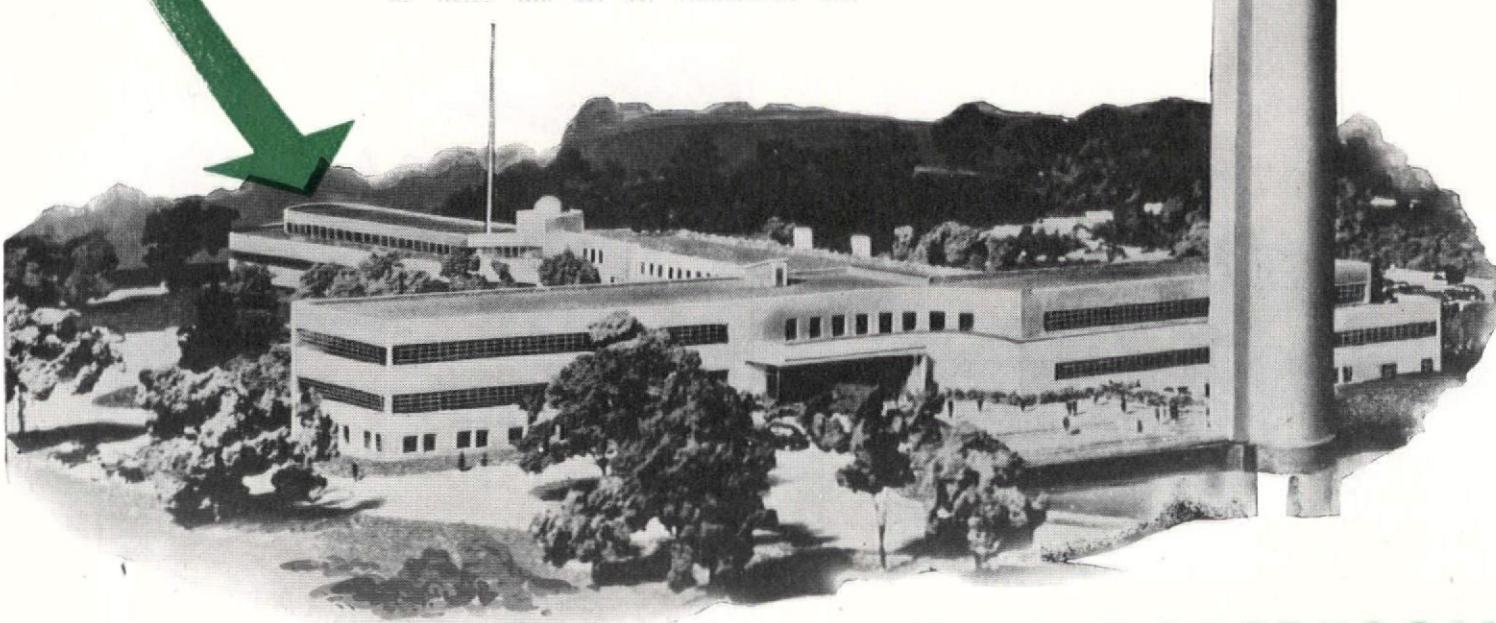
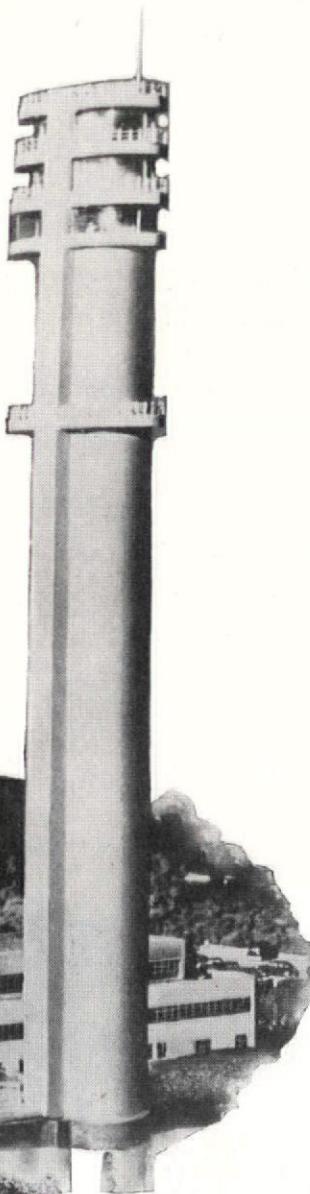
Like the completed section shown above, the finished project will be Robertson Q-Floors and Robertson Q-Panels throughout. The tower will be faced with specially designed aluminum fluted Q-Section.

The Q-Panels are 2' wide consisting of a fluted aluminum section and a flat steel plate enclosing 1½" of insulation. Q-Panels weigh less than 5 lbs. per square foot and can be erected so fast that a crew of only twenty-five men have put up an acre of wall in three days. Yet this advanced wall building panel has the thermal insulation value of 12" dry masonry.

Fluted or flat surfaces offer great variety for architectural contrasts in light and shadow.

Wherever conventional, heavy masonry walls have been used in commercial and industrial buildings, Q-Panels can be used, and it's a lot easier to hang a wall than to pile it up. Q-Panels come to the job pre-engineered for speedy erection, and not the least of Q-Panels' advantages right now is the fact that you can get them in a reasonable time. In addition to the job described here, Robertson Q-Panels are currently being used in all parts of the country.

For more information, call your Robertson Representative or write the H. H. Robertson Co.



H. H. ROBERTSON CO.

George A. Fuller Co., New York City, Contractors

2403 Farmers Bank Building
Pittsburgh 22, Pennsylvania



Offices in 50 Principal Cities
World-Wide Building Service

REVIEWS

HALL-MACK
THE SMARTEST IN BATHROOM
ACCESSORIES

TOILET PAPER
HOLDER No. 370
Chrome Roller

TUMBLER AND
TOOTHBRUSH
HOLDER No. 330

SOAP HOLDER
No. 322—With Un-
breakable Crystal Tray

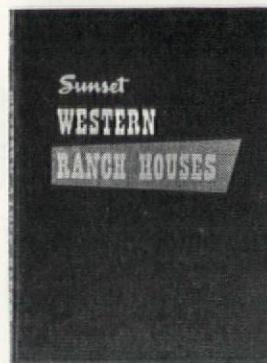
ROBE HOOK
No. 381—2½" Long

SQUARE TOWEL
BAR No. 394—¾"
Square Bar. Lengths:
18", 24", 30", 36"

ARISTOCROME accessories are made of solid brass, nickel plated and then heavily chromium plated to add distinction to the finest bathroom.

HALL-MACK COMPANY
(FORMERLY HALLENSCHIED & McDONALD)

1344 WEST WASHINGTON BLVD., LOS ANGELES 7, CALIF.



means for achieving these aims, most important of which are: sufficient privacy and protection for the outdoor portions and easy accessibility to indoor living space.

The breadth of its material and commonsense planning advice insure the book's value for anyone intending to build a house of this type. Well-illustrated is ranch-house ability to absorb mechanical improvements and to adapt itself to a variety of native materials without losing its individual character. However, the organization of chapters in the book is at times haphazard. Some duplicate. ("It can be spacious and fit the budget" might certainly be incorporated with "More living space for less money.") The photographic presentation is attractive but it hardly covers the field as a whole, and it is disappointing that, with the exception of three fine houses by William Wurster, none is captioned as to its architect.—S. K.

HOSPITALS—INTEGRATED DESIGN by Isadore Rosenfield. Reinhold Publishing Corp., New York. 308 pp. Illustrated. 9 x 12 in. \$10.75.

With today's tremendously increased demand for hospital construction, it is gratifying that Mr. Rosenfield has taken time out to prepare this much-needed book from his exceptional background of hospital design experience.

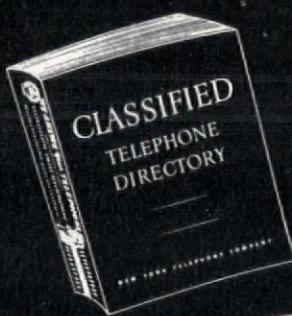
(Continued on page 140)

... Meet the
UNSEEN GUARDIAN
SYMBOL OF
SISALKRAFT PRODUCTS

- ✓ **SISALKRAFT**
... waterproof reinforced
building paper
- ✓ **SISALATION**
... reflective insulation and
moisture-vapor barrier
- ✓ **COPPER ARMORED**
SISALKRAFT
... Sisalkraft plus pure elec-
tro deposit copper

THE SISALKRAFT CO.
CHICAGO, ILLINOIS

To help you plan General Electric Heating Installations —



FOR SPECIFICATIONS

You'll get full information on
**GENERAL ELECTRIC GAS AND OIL
HEATING in Sweets's, Section 29A-6**

FOR PRICES

Ask your General Electric Dealer.
He's listed under "Heating Equipment"
in your Classified Telephone
Directory.

IMPORTANT To Architects:

Production is picking up. We hope it won't
be long before you can give your clients the
added quality of General Electric Heating. And,
remember, General Electric equipment is priced
competitively in the better grade heating field.

Automatic Home Heating

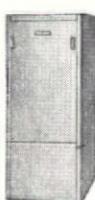
GENERAL  ELECTRIC

General Electric Company, Air Conditioning Department, Section 7133, Bloomfield, New Jersey

OIL-FIRED



G-E Boiler for steam
or hot water heat



G-E Warm Air Con-
ditioner



G-E Conversion
Oil Burner

GAS-FIRED

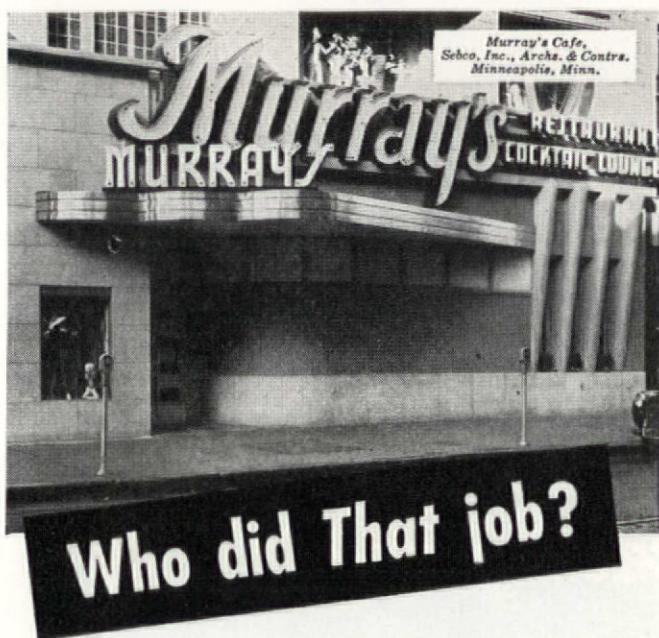


G-E Boiler for steam
or hot water heat



G-E Warm Air
Conditioner

REVIEWS



SEAPORCEL-the-beautifier is also Seaporcel-the-sales-maker. Not only for your clientele, but for *you*.

What more natural prospect-question than "Who did that job?" And what more natural self-promise than "That's for me, too!"?

See how Seaporcel* becomes the background of perfection for letters of distinction in the front portrayed here. See how Seaporcel, in turquoise terra cotta, blends daringly, dramatically, adroitly, with white metal, Kasota stone—yes, even wood, utilized in the upright fins as shown in the above photo.

With unlimited color range, from delicate pastels to jet black . . . with numerous finishes, including gloss, semi-matte, terra cotta, granite and limestone . . . Seaporcel offers you a material at once versatile, economical, and *enduring*. For Seaporcel is porcelain enamel de luxe—not painted, but fused to steel for lasting newness.

Get The Facts—And You'll Get SEAPORCEL

WRITE TODAY for bulletins, showing applications and current jobs.

Inquiries from interested agents invited; there are a few areas in which Seaporcel Porcelain Metals, Inc., desires representation.

SEAPORCEL PORCELAIN METALS, INC.

Formerly Porcelain Metals, Inc.

28-24 Borden Ave., Long Island City 1, N. Y.

*Seaporcel (Reg. U. S. Pat. Off.) is a ceramic fused into its metal base at 1560 degrees F.



Seaporcel
Member: Porcelain Enamel Institute, Inc.



Socially integrated planning of hospitals to care for the needs of the one-half to three-quarters of the people who cannot afford to pay for hospitalization is outlined in the introductory chapters. There should be better coordination, Mr. Rosenfield believes, of hospital facilities, from the big-city medical center of 1,000 beds with research and teaching adjuncts, on down to small hospitals of under 100 beds serving a Health Service Area—the ideally economical unit being the larger hospital. Most of the book consists of a thorough and detailed analysis of the specific units in hospital design: the nursing unit; diagnostic and therapeutic facilities; x-ray and radiation therapy; laboratories; necropsy (the morgue); operating department; maternity and pediatrics; service departments; outpatient department. There is discussion of special hospitals such as contagious, tuberculosis, cancer, psychiatric, etc.; the small hospital; housing and training facilities; specific problems of daylighting and artificial illumination; mechanical plant; construction and costs (already somewhat outdated). With each chapter there are many examples illustrated with floor plans, photographs, statistical tables, of various types of existing hospital layout.

A sound book, well designed—although some plans are so much reduced they are hard to read, and a few typographical errors have crept in.—E. B.

(Continued on page 142)

FOOT CANDLES TALK!



are available to commercial and industrial users of light when installations are made with COLOVOLT Cold Cathode, Low Voltage Fluorescent Lamps and Fixtures.

Write for illustrated material and technical data.



* Trade Mark Registered U. S. Patent Office

GENERAL LUMINESCENT CORPORATION

622 S. FEDERAL STREET

CHICAGO 5, ILLINOIS

Reaching Over 30,000,000 Prospective Owners . . .

American Kitchens ADVERTISING-

WE DIDN'T PAY AN EXTRA PENNY FOR
Twenty Exclusive American Kitchens' Advantages!"

Now it can be yours—this new,
Styled-in-Steel American Kitchen!

For many months you've been reading about an amazing, new, different kitchen that was said to be available. Now it's here! And every American Kitchens dealer invites and welcomes you to come to his store and see it. This new kitchen will surprise and delight you with its planning beauty—it's back-to-back and styled in six planes of detail—its space of well-thought-out advantages. You'll marvel at its adaptability—where you see how readily it may accommodate changes to your own ideas...any new planning! Now you can have precisely the kitchen arrangement you desire, regardless of the size or shape of your room, or whether your home is new or old. It's time to do—the American way. Remember, too, that factory-trained experts are available everywhere, to assist you with the details to help you make your plan practical.

The first step toward the convenience and happiness you've dreamed about—we suggest you send N.Y.C. for our new, full-color book—just off the press. It will give you full information about these remarkable new American Kitchens—and help you plan your own. Then—visit your own American Kitchens dealer—soon and get for yourself.

AMERICAN CENTRAL Division—The Aviation Corporation, Connersville, Indiana

American KITCHENS STYLED IN STEEL

SEND FOR this beautiful full-color book

AMERICAN CENTRAL Division—The Aviation Corp., Connersville, Indiana
I enclose \$1. Please send me your full-color book which will help me plan my own American Kitchen.
Name _____
Address _____
City _____

Popularizing the
Finest Equipment
in the Field!

- ★ FULL-PAGE,
FULL-COLOR IMPACT!
- ★ APPEALING TO
YOUR BEST PROSPECTS!
- ★ AMERICAN'S
20 EXCLUSIVE
ADVANTAGES!
- ★ SMARTNESS
AND MODERN
EFFICIENCY!
- ★ FOR NEW BUILDING!
FOR REMODELING!
- ★ EASY TO OWN—
EASY TO PAY!
- ★ FACTORY-TRAINED
ASSISTANCE!
- ★ PLANNING BOOK!



American Central proudly presents its great new color advertising campaign, to appear regularly in the **Saturday Evening Post**, **Better Homes and Gardens**, **American Home**, **House Beautiful**, **Parents'**, **Farm Journal**, and **Good Housekeeping**!

22,000 women have written us monthly for information about *American Kitchens*—and

where to buy them.

With this great advance popularity, *American Kitchens* are destined for a lion's share of the great virgin market which has already absorbed 44-million washing machines.

American Kitchens are unsurpassed for beauty, quality, advanced features, installation in any kitchen.

AMERICAN CENTRAL
Division—
The Aviation Corporation
Connersville, Indiana

American
KITCHENS

STYLED
IN STEEL

REVIEWS



A blowtorch demonstration will help you sell the *flameproof* advantages of Cotton Insulation more quickly and effectively than a thousand words. The full column advertisement reproduced here will prepare an audience of 6,000,000 home owners and prospective builders to hear and see your sales presentation on Cotton Insulation.

THE ABOVE ADVERTISEMENT

WILL APPEAR IN MARCH ISSUES OF

BETTER HOMES AND GARDENS
HOUSE AND GARDEN
SMALL HOMES GUIDE

ALSO IN APRIL ISSUES OF

AMERICAN HOME
HOUSE BEAUTIFUL

FREE! Send for your copy of the new sales folder on Cotton Insulation. It gives you many suggestions for dramatizing the powerful sales story of this amazing product. Write today—it's FREE. Address National Cotton Council, Box 18, Memphis 1, Tenn.

TOTAL READERS
OVER
6,000,000



COTTON INSULATION ASSOCIATION
NATIONAL COTTON COUNCIL OF AMERICA

YOUR CITY TOMORROW by Guy Greer. The Macmillan Company, New York. 210 pp. Illustrated. \$2.50.



"The average citizen rather than the professional planner is the fellow to whom the book is addressed," says Mr. Greer. But in addition to a simple introductory outline of city planning for the layman, a brief description of the headaches of attempting to replan Syracuse, a final plug for the competition recently conducted in Boston for a comprehensive city re-plan, there are some intermediary chapters that it might be well for

our professional planners to read. One such chapter is a lucid explanation of public housing under USHA which, despite its present bogging-down, was "with all its trial and error, a start toward dealing with the problems of adequate housing for low-income families. It eliminated a few of the worst of the slums, and, apart from the expense of acquiring slum property, it provided a few samples of excellent new housing at moderate cost . . . Virtually every shortcoming of the program could be corrected by changes in the law and a clearer understanding of the duties and responsibilities of administration."

Further clear analysis is given to the legal, administrative and financial methods for coming to grips with the master-planning problem in cities—particularly the legislative steps toward public land acquisition of slum areas, and the need for revising our tax revenue distribution between city and

(Continued on page 144)



For Modern New Interior Remodeling



Old type elevator bank completely remodeled with Structural Bends at The Baker Co., Minneapolis, Minnesota.

LOW COST! USE STRUCTURAL BENDS FOR ALL REMODELING

Made of strong tempered Masonite preswood, Structural Bends are a practical, inexpensive material for creating streamlined merchandise settings. Whole departments can be modernized, new window backgrounds installed, outstanding effects created at little cost. 17 basic shapes available in 8' and 12' lengths. Flexible, easy to cut, construct, finish and install. In stock.

Write for free catalog now.



Designed and Distributed Exclusively by
W. L. STENSGAARD & ASSOCIATES, INC.
335 N. JUSTINE ST. • CHICAGO 7, ILL.

Structural Bend Design
1-24.21" wide
8' long
only \$3.50

A Tribute to
AQUELLA
from a prominent
California Architect



1372 SOUTH EL MOLINO AVENUE
PASADENA 5, CALIF

November 15, '46

Prima Products, Inc.,
230 Fifth Avenue,
New York City.

Gentlemen:

I have been a practicing architect in Pasadena for something like forty years and have thought that you might care to have from me an endorsement of Aquella. I was the architect of the Pasadena Community Playhouse, the Huntington Art Gallery at San Marino, California, and some of the buildings of the California Institute of Technology.

My own home in Pasadena was built some 35 years ago. When the forms for the concrete of its basement walls were removed a number of fissures were disclosed which, during heavy rain storms resulted in the basement being flooded. This has happened virtually every year now since the house was built.

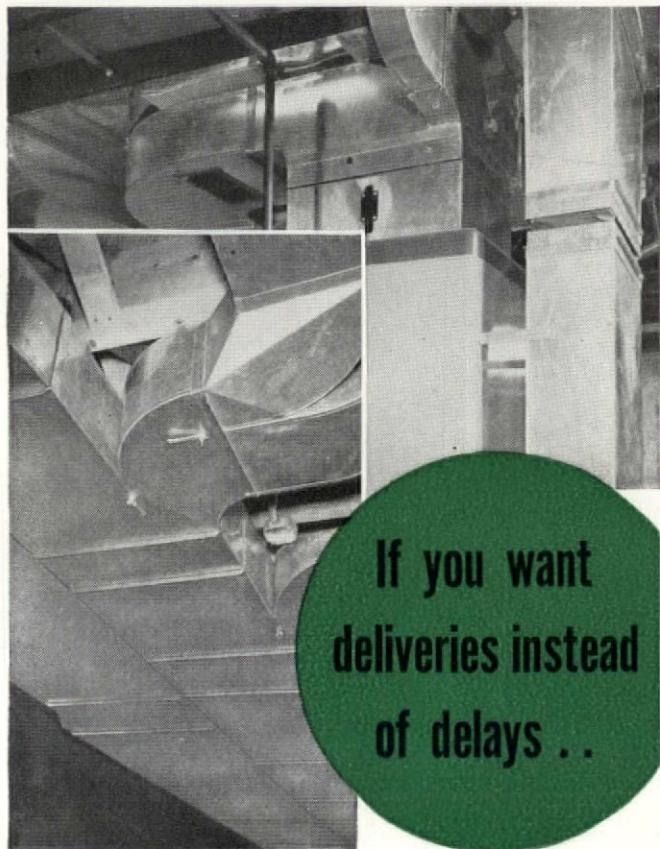
I knew that if I could get at the outside of the basement walls it would be a simple matter to apply waterproofing and stop the leaks. But that would be difficult and expensive. This year I thought I would experiment with Aquella on the inside of the walls. We have just had the worst rainstorm of the season. The rain came down in torrents for several days. But our application of Aquella to the inside of the walls stopped the leaks. Our basement is as dry as a bone. I am therefore glad to recommend Aquella as an unusually effective waterproofing compound.

Yours truly,

A handwritten signature in cursive ink that reads "Oliver Grey".

The principle on which Aquella works and how it is being used by architects, engineers and contractors to control water seepage on all porous masonry surfaces is told in our new brochure "Aquella and Concrete Masonry Construction." May we send you a copy?

PRIMA PRODUCTS, Inc.
DEPT. D • 10 EAST 40TH STREET, NEW YORK 16, N.Y.



Specify Reynolds Lifetime Aluminum Sheet For Duct Work

You can cross those duct jobs off your critical list. Reynolds Lifetime Aluminum Sheet for this service is available for immediate delivery.

Bids based on aluminum will surprise you—pleasantly. Weighing but $\frac{1}{3}$ that of previously used materials, you get three times more working surface per pound of aluminum. Light weight and excellent workability make for important time savings in forming and erection, too.

Aluminum ducts give longer, better service. They defy rust and corrosion; require no paint; are attractive in appearance; reduce burner and blower noise and offer less resistance to air flow. For literature, complete information, contact nearest Reynolds sales office or write Reynolds Metals Company, Aluminum Division, 2528 South Third Street, Louisville 1, Ky.

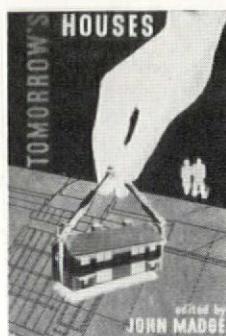


REYNOLDS
*The Great New
Source of* **ALUMINUM**

INGOT • SHEET • SHAPES • WIRE • ROD • BAR
TUBING • PARTS • FORGINGS • CASTINGS • FOIL • POWDER

state. On land acquisition, Mr. Greer takes a middle-of-the-way stand between "housers" like Nathan Straus, who object to government land acquisition which protects or "bails out" existing profiteering slum owners, and those reactionaries who believe that private enterprise alone can handle everything. As he points out to the latter, "there are, of course, methods of attacking the blight problem far more radical than anything discussed in this book. In Great Britain, for example, measures are being taken that stop short of the nationalization of the land. . . . But Britain's problems—more dramatic though no more urgent fundamentally—are on a much smaller scale than ours."—E. B.

TOMORROW'S HOUSES. *New Building Methods, Structures and Materials.* Edited by John Madge. Pilot Press Limited, London. 336 pp. Illustrated. 6 x 8 $\frac{1}{4}$ in. 18s.



Not nearly as handsome a book as its American counterpart of similar title (*Tomorrow's House*, by George Nelson and Henry Wright), this English survey of recent wartime developments applicable to house construction is, however, a good technical study of methods and materials that may help Britain out of a dire housing predicament. As Mr. Madge, the editor of *Tomorrow's Houses*, points out in an excellent introduction, house-building in England during the war did not benefit by the tremendous strides in reorganizing and re-equipping some other wartime industries. So the series of articles he has assembled endeavors to guide the way to

(Continued on page 146)

All of these shares having been sold, this announcement appears as a matter of record only.

NEW ISSUE

300,000 Shares

WILLIAM H. HARMAN CORPORATION

Class A Stock
(Without Par Value)

This is under no circumstances to be construed as an offering of these shares for sale, or as an offer to buy, or as a solicitation of an offer to buy, any of such shares.

SMITH, BARNEY & CO.

January 20, 1947

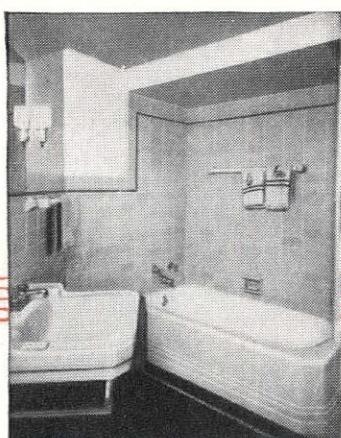
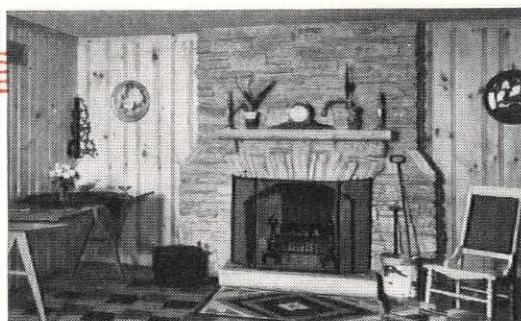
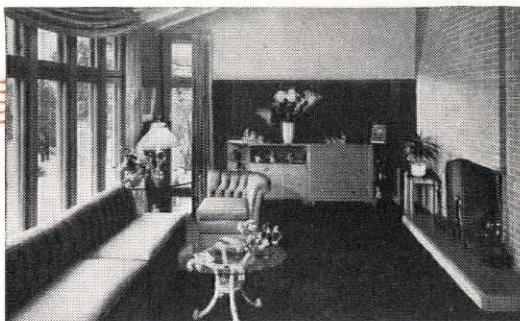
HEAT *that flows*

TO EVERY NOOK AND CRANNY

YOU'LL want to specify Moduflow for every home you design. With Moduflow heat does flow—literally—to every nook and cranny. Instead of former on-and-off control systems, Moduflow furnishes heat continuously and with the supply always in balance with heat loss.

By including Moduflow in the homes of your clients, you are providing an entirely new kind of heating comfort because this control represents one of the radically new improvements for which the public is looking. Moduflow puts an end to the drafts and chilly periods caused by intermittent heat supply. Gone is the cause of petty annoyances about a bathroom that is not warm enough, or a living room that is cold at one end.

Use Moduflow not only to give your clients the ultimate in home heating comfort, but to identify yourself with progressive improvements. Moduflow is available now. It has been tested and proved on installations throughout the country. Minneapolis-Honeywell Regulator Company, 2600 Fourth Avenue South, Minneapolis 8, Minnesota . . . In Canada: Toronto 12, Ontario.



MODUFLOW

The New HONEYWELL Heating Control System

SEND FOR THIS BOOK

MINNEAPOLIS-HONEYWELL REGULATOR CO.
2600 Fourth Ave. So., Minneapolis 8, Minn.

Please send my free copy of
"Comfort Unlimited"



FREE

Name _____

Address _____

City _____ State _____

Do Your Clients



beg for breezes?

Have heat-withered clients ever begged you to provide cool, refreshing breezes for their homes? . . . Are you looking for dependable, economical summer cooling for the homes you plan? Then you should know about BAR-BROOK BREEZEBUILDER Attic Fans — the way to assure cooling comfort in new or old homes. Installation is simple and inexpensive; operation is silent, dependable, trouble-free. Learn how to include breezes in all your house plans — write for information about BAR-BROOK BREEZEBUILDER Attic Fans.



BREEZEBUILDERS are available in four sizes, with capacities from 7,500 to 21,000 CFM. Streamlined, die-formed, Venturi-type orifice. Aerodynamically balanced blades. Built-in thermal overload protection. Graphite impregnated Bronzoil bearings. Operates for only a few cents a day.



BAR-BROOK
MFG. CO., INC.
(Formerly Shreveport Engineering Co.)
1553 TEXAS AVENUE
SHREVEPORT, LOUISIANA, U.S.A.



wards less wastefulness in rebuilding. "For at least five years there is likely to be an insatiable demand for every house that can be provided. . . . It is clear that the orthodox building industry, relying on well-tried methods, will without augmentation be incapable of supplying the need. The question still to be decided is the form of augmentation to encourage. . . . And yet there has been very little scientific analysis of the expenditure, particularly on finishings, which is economically justifiable and desirable. British practice is unsystematic enough in this respect in all fields, as compared with that adopted in, for example, the United States. . . . Official agencies have authorized an improvement in minimum standards over those obtaining at the outbreak of the war. . . . The economies of modern technique often only begin to assert themselves when quantity production can be organised. . . . It is honest to recognise the fact that many of the ancient crafts are being undermined by the substitution of scientific design and mechanical processing."

The thirteen sections, by various contributors, commence with an article on "Aluminium and Its Alloys" by E. G. West. This chapter follows an outline used in most of the sections: the possibilities of recently increased production for housing the properties of aluminum, with technical details on thermal and mechanical properties, greater resistance to corrosion, building methods and applications, etc. The second section is on plastics, with complete discussion of the various types, processes for molding and fabrication, combination with older materials (such as wood), shortcomings, architectural uses, etc. Each section is illustrated with cuts: for example, one of the photographs in this section shows the use of plastic-faced strips in terrazzo flooring. The timber section is

(Continued on page 148)

REVOLUTIONARY IN ENGINEERING • REVOLUTIONARY IN DESIGN

coolstream
creates
the
contemporary
cooler

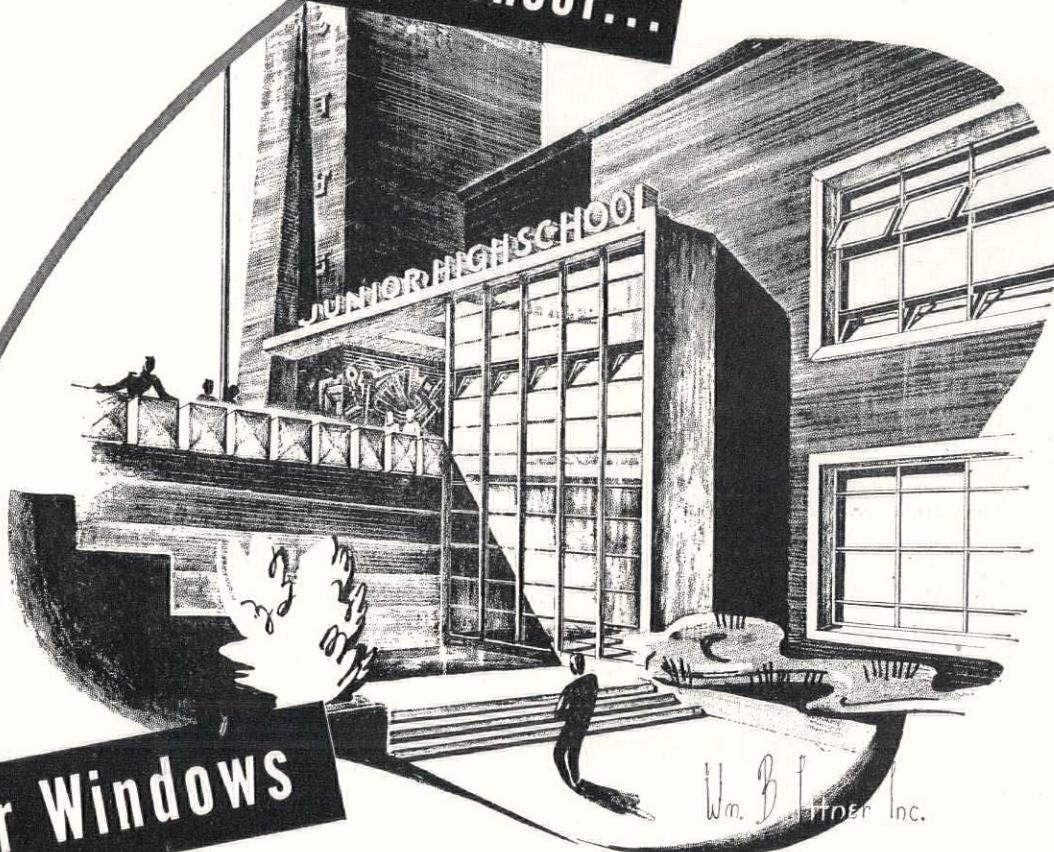
clearly conceived...
cleverly executed...
for modern installations.

ask your
distributor
to show you
the new
coolstream
electric
water coolers

THE COOLSTREAM CORPORATION
240 Butler St., Brooklyn 17, N.Y.

Wm. B. Ittner, Inc. details a school...

Mesker Windows



Wm. B. Ittner, Inc.

"Rarely does a product so functional as yours

lend itself to such a wide range of architectural treatment in designing school buildings."

Lester C. Haeckel,
Designer for
Wm. B. Ittner, Inc.



For your copy of the Mesker Book of School Windows
write to Mesker Brothers, 4336 Geraldine, St. Louis 15, Mo.

The Heart of the Home



Plan a kitchen that has all the modern conveniences of gas even though you are building beyond the gas mains.

Specify "PYROFAX" GAS SERVICE

"Pyrofax" gas burns just like city gas—it operates the same appliances such as a Magic Chef gas range, a silent Servel refrigerator, and an automatic water heater. "Pyrofax" gas brings new economy, convenience and cleanliness to country homes—with this modern automatic gas service your clients will have *no service interruptions, no dirt or odor*. "Pyrofax" gas is distributed in most states east of the Rockies.



For complete information and the name of the nearest distributor, write to Dept. A, "PYROFAX" GAS DIVISION, CARBIDE AND CARBON CHEMICALS CORPORATION, 30 EAST 42nd ST., NEW YORK 17, N. Y.

PYROFAX

TRADE-MARK

SUPERIOR BOTTLED GAS SERVICE FOR OVER 25 YEARS
Product of a Unit of Union Carbide and Carbon Corporation

COOKING • WATER HEATING • REFRIGERATION
ROOM HEATING • BEYOND THE GAS MAINS



an attempt to steer English readers toward the use of less traditional building materials—e.g., unknown woods from the British colonies, etc.

The outline of prefabrication, prepared by Dex Harrison, explains the difference in the attitude toward prefabrication in the U. S. "where it is now regarded as a normal part of the progressing economy," and in England "where it is an exceptional stop-gap." He gives an entire history of prefabrication, with a few early European examples (such as a British cast-iron prefabricated tollhouse of 1830, predating the well-known Crystal Palace) not so well-known here; and a great many American examples that are somewhat old hat to us. This chapter, however, is an interesting survey of the earlier techniques of prefabrication and is well illustrated with thumbnail sketches of various panel methods.

The chapter on the steel-framed house is introduced because of the ready adaptability of this type of construction due to wartime developments. Although the chapter on the use of lightweight concrete for housing is divergent from some of the theories expressed elsewhere (in the chapter on prefabrication, for instance), there is much laboratory data on various aggregates, methods (sometimes curiously influenced by England's tradition of brickwork), and a more than usually complete bibliography. Sections VII and VIII illustrate specific English prefabs developed in the war years, many of which are already familiar to FORUM readers—e.g., the A.I.R.O.H. house (of the Aircraft Industries); the B.I.S.F. house by Frederic Gibberd; the Braithwaite house by F.R.S. Yorke; Jicwood house, etc. The last sections are more specifically related to British Codes of Practice than the foregoing general chapters and are of less interest to American readers.—E. B.

An authoritative study of general and design aspects

PANEL HEATING AND COOLING ANALYSIS

By B. F. RABER, Chairman of the Department and Professor of Mechanical Engineering, University of California; and F. W. HUTCHINSON, Professor of Mechanical Engineering, Purdue University.

An extensive and rigorous presentation of the essential background material on panel heating and cooling analysis. This authoritative book was prepared by two pioneering authors after years of research both here and abroad. **PANEL HEATING AND COOLING ANALYSIS** covers the general and design aspects of the maintenance of comfort conditions by the use of radiant surfaces. The latter portion of the book presents a thorough treatment of the theoretical aspects of the subject and fits them into a definite design procedure.

13 COMPREHENSIVE CHAPTERS:

- Introduction: Methods of Attaining Thermal Comfort. Types of Panel Heating and Cooling Systems
- Types of Heating Panels
- Advantages of Panel Heating and Cooling
- Disadvantages of Panel Heating and Cooling
- Radiation Equations
- The Comfort Equation
- The Mean Radiant Temperature
- Evaluation of Shape Factor: Planar Surfaces
- Evaluation of Shape Factor: The Human Body
- Evaluation of Shape Factor: Approximations and Examples
- Heat-Balance Equations
- Simplified Heat-Balance Equations
- The Equivalent Conductance Design Procedure

1947 208 Pages \$3.50

ON APPROVAL COUPON

JOHN WILEY & SONS, INC.
440 Fourth Avenue, New York 16, N. Y.

Please send me a copy of Raber and Hutchinson's **PANEL HEATING AND COOLING ANALYSIS** on ten days' approval. If I desire to keep the book, I will remit \$3.50 plus postage; otherwise I will return the book postpaid.

Name _____

Address _____

City _____ State _____

(Approval offer not valid outside U. S.)

ART-ROC

Reg. U. S.
Pat. Off.

Built-in COLOR

makes this concrete terrace look like REAL TILE!

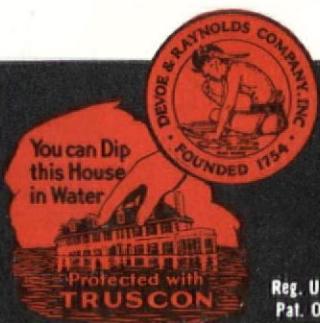


SEND FOR
FOLDER

TRUSCON
ART-ROC
AGGREGATE
GIVES
Built-in COLOR
HARDNESS
DURABILITY
EXTRA VALUE
at Low Cost!

Wherever a flat concrete surface is used—terrace, basement, driveway, sun room, porch, walk, etc.,—it can be given beauty and distinction with Truscon ART-ROC Color and Hardener for concrete. ART-ROC Aggregate is dusted on before finish troweling and produces a richly colored, BUILT-IN surface which takes all kinds of punishment because it is much harder than ordinary concrete. The surface can be scored to simulate tile, random flagstones or any similar effect and thus given added distinction over and above the distinction achieved by the use of ART-ROC color. ART-ROC involves very little labor and the cost is trifling. We invite your inquiries. Write Dept. AR-5, Truscon Laboratories, Division of Devoe & Raynolds Co., Inc., Detroit 11, Michigan.

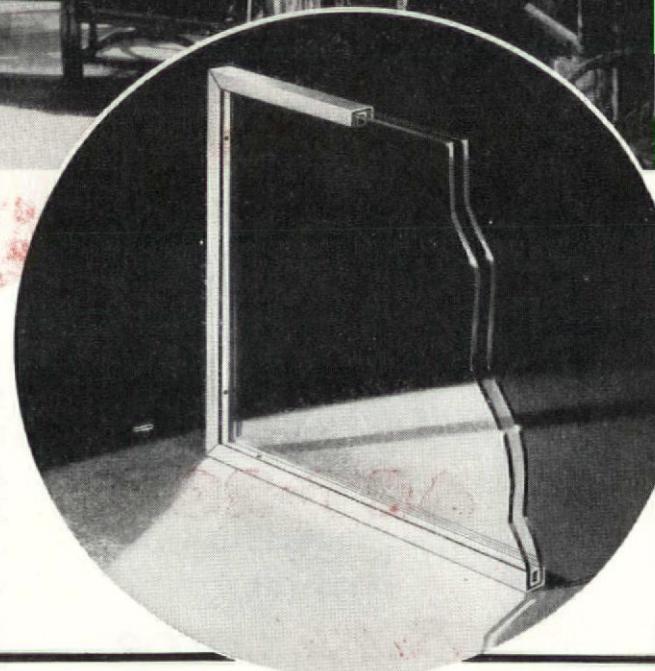
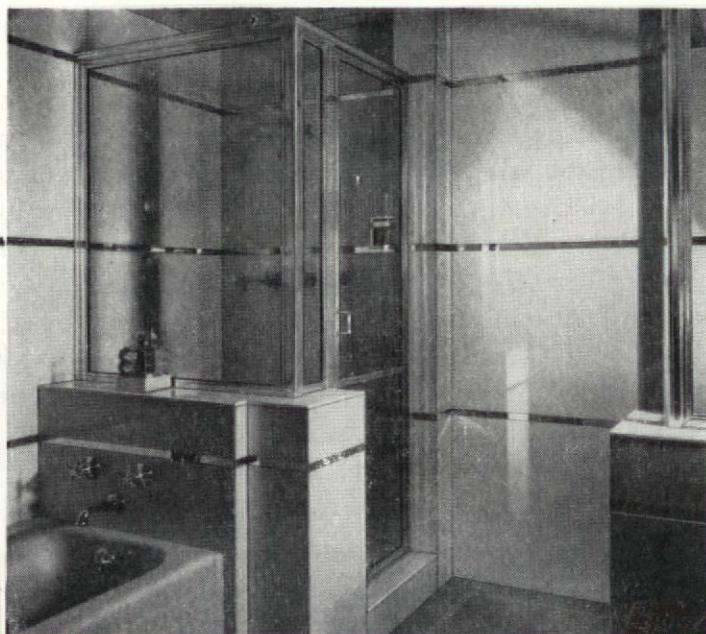
TRUSCON *laboratories*



Practical applications of Glass



ATTRACTIVE SURROUNDINGS are an invitation to the architect to take advantage of them in designing a home. For this reason large window areas, glass panels, even glass walls have grown in favor during recent years. Pittsburgh Polished Plate Glass has been consistently selected by many architects to glaze such areas. Now, Twindow, Pittsburgh's new window with built-in insulation, makes such applications more practical than ever before. For Twindow affords not only clear vision, beauty, and generous light transmission, but the comfort and economy of efficient insulation as well. Architect: Anthony Thormin.



TWINDOW, Pittsburgh's new window with built-in insulation is made up of 2 or more panes of Pittsburgh Glass with a sealed-in air space between them. When Twindow is composed of 2 sheets of glass, it provides almost double the insulating effectiveness of single-glazed windows—and even better insulation when 3 or more panes of glass make up the Twindow unit. Twindow cuts heating costs, minimizes downdrafts, virtually prevents steamed windows.

WIDE LATITUDE IN BATHROOM AND KITCHEN DESIGN is made possible when Carrara Structural Glass is selected for walls, wainscots, ceilings. This glass comes in 10 beautiful shades. It won't craze, check, stain or absorb odors. It is readily decorated in various ways. It is easy to clean. (Note the Heavy Plate Glass shower enclosure in this room, the decorative, horizontal-mirror strips in the Carrara walls.)

PITTSBURGH PLATE GLASS COMPANY

in residential buildings



DECORATIVE POSSIBILITIES of Pittsburgh mirrors are illustrated by this example of a map, sandblasted on the mirror to 5 different depths, and then the whole mirror panel edge-lit. Edge-lighting through the various levels of sandblasting gives the map varying tonal values. Combined with mirror-backed shelves and glass desk, the effect of this "mirror mural" is striking.

THE APPEALING GOOD LOOKS and practical virtues of PC Glass Blocks have made them a favorite among the newer building materials. They transmit daylight generously and yet preserve privacy. They have noteworthy insulation properties. They are available in various attractive patterns and sizes. Designed by Paul Laszlo.



We believe you will find much to interest you in our illustrated booklet of ideas concerning the use of Pittsburgh Glass in building design. Send the coupon for your free copy.

★ Design it better with

Pittsburgh Glass



"PITTSBURGH" stands for Quality Glass and Paint

I T T S B U R G H P L A T E G L A S S C O M P A N Y

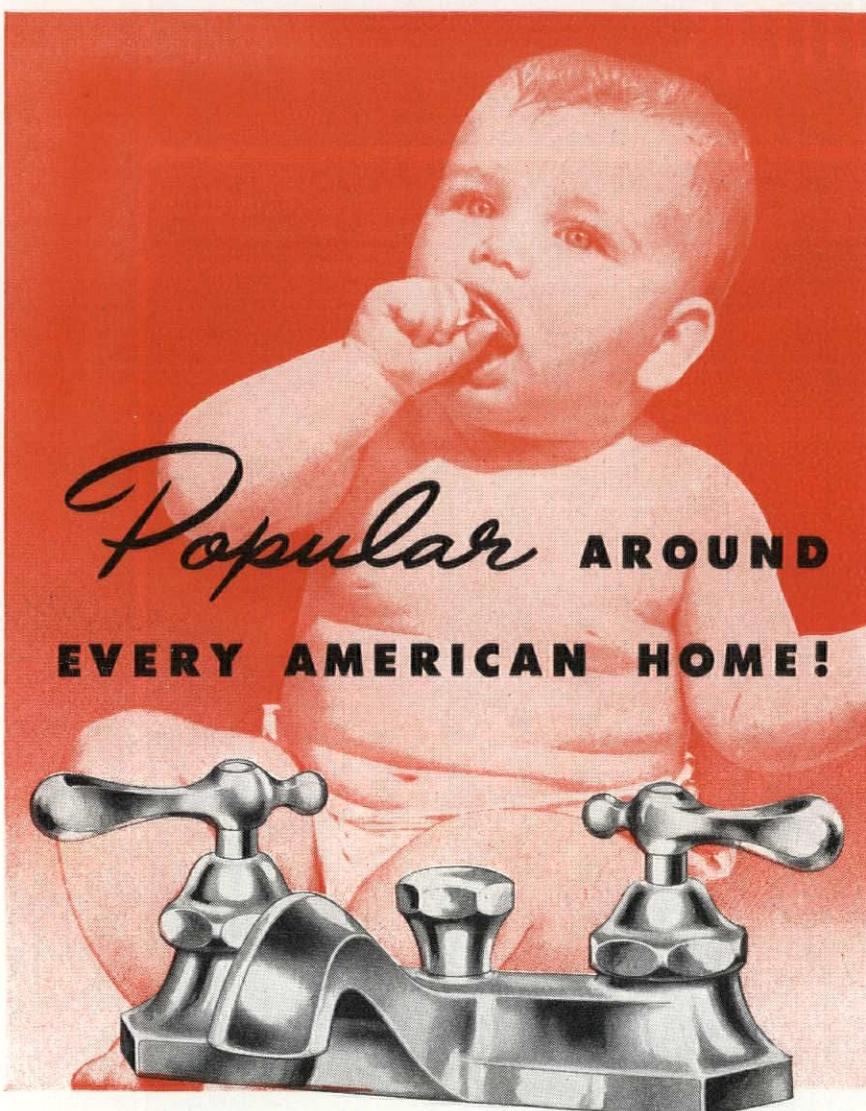
Pittsburgh Plate Glass Company
2027-7 Grant Building, Pittsburgh 19, Pa.

Please send me, without obligation, your booklet entitled: "Ideas for the Use of Pittsburgh Glass in Building Design."

Name.....

Address.....

City..... State.....



For bathroom, kitchen or laundry, Salter Masterpiece Fixtures possess the desirable features of style, beauty and "EZE" CLOSE operation which make them most popular for modern plumbing installation. The building trade is capitalizing on this acceptance and at the same time profiting from our ability to produce a more complete line, through the combined facilities of seven specialized plants.

During 1947 many new and improved fixtures with exclusive Salter features will also be introduced. To assist you in specifying Salter Masterpiece appointments, write today for our new catalog, describing the complete Salter-Glauber line of quality plumbing fixtures.



H.B. Salter MFG. CO.
MASTERPIECES IN BRASS
50 Ninth Street, Marysville, Ohio

and division THE GLAUBER BRASS MFG. CO., Kinsman, Ohio

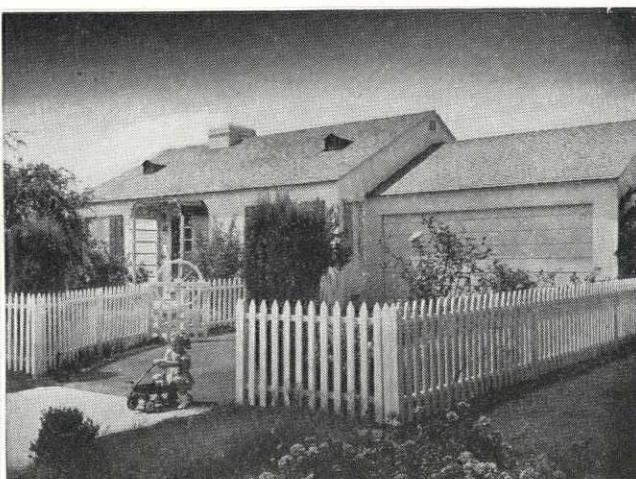
POST-SALES SERVICES include maintenance and the encouragement of "psychological equities."

Since it is building communities as well as houses, Kaiser Community Homes cannot afford to abandon its customers once the house keys are delivered. It maintains a genuine and continuing interest in the home owner, his property and the community. This is more than smart public relations; besides creating satisfied customers, valuable word-of-mouth advertising and widespread good will—all vitally necessary for a business which depends on mass production and mass sales—KCH's post-sales services protect its interests in the community (shopping centers) and the mortgagees.

A separate service division of KCH, set up in each community, corrects the common house faults which irritate buyers—doors that jam, windows that stick, floors that creak, etc.—and performs all kinds of maintenance and repair. Faults definitely attributable to the builders are remedied free of charge during the first year; thereafter, the division's services are available at moderate cost. Ultimate plan is to write annual maintenance and repair contracts (like insurance policies), whose cost will be low through group participation.

Other services which benefit home owner and developer alike are called "psychological equities," KCH-encouraged investments by owners in various forms of property improvement. They tend to attach the owner more firmly to his new property, thus reduce the likelihood of foreclosures and up the character and appearance of the community. Home-made landscaping is the most popular of the psychological equities. KCH nurseries offer shrubbery at bargain prices to encourage this equity investment and, incidentally, to add still more variation to its standardized houses. KCH last Christmas gave each customer a potted Camellia, hoped that it would be transplanted to the garden. Now under consideration by KCH is a home owners' night school in landscape gardening to assure that these psychological equity investments pay maximum dividends in property and community betterment.

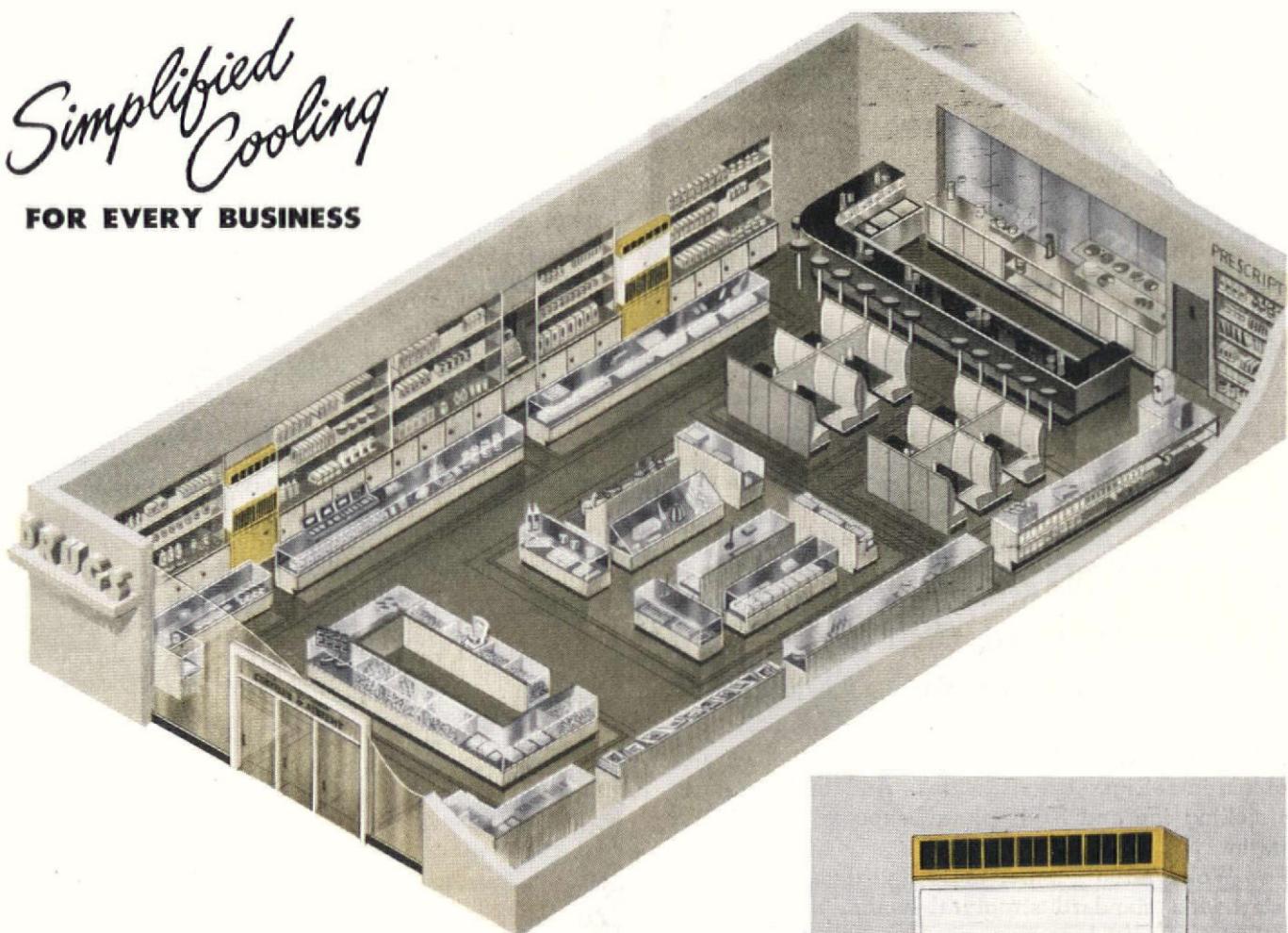
Another type of KCH service much needed by all small house buyers is offered in conjunction with Bullocks, Los Angeles' leading department store. Experienced in furnishing all KCH model homes, Bullocks now offers stock furniture scaled to the various room sizes, and stock-size draperies for trimming the windows—both at substantial savings to KCH customers. In the offing is another KCH instruction course: home furnishing and decoration. *(Continued on page 154)*



PSYCHOLOGICAL EQUITIES practically conceal one of Burns' pre-war houses, represent much owner work.

*Simplified
Cooling*

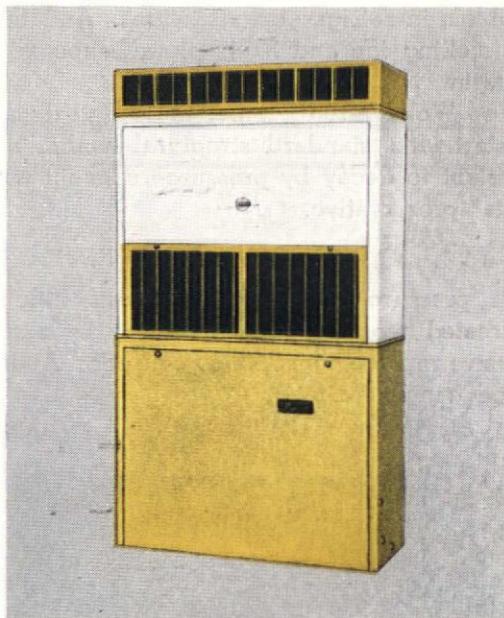
FOR EVERY BUSINESS



A Drug Store Designed to Draw More Customers

A BUSINESS-MINDED architect planned it that way. He knew that air conditioned stores get more traffic—that cool, comfortable customers stay longer, *buy more*, and that employees are more contented, efficient, and that there is less absenteeism.

Chrysler Airtemp Packaged Air Conditioners were chosen because they simplify air conditioning installations in stores large and small. They can be installed singly or in multiples. Each is a complete, self-contained, automatic, "fool-proof" air conditioner. Packaged Air Conditioners are noted for great dependability, long life, low operating and upkeep costs. For details, write Airtemp Division of Chrysler Corporation, Dayton 1, Ohio; in Canada—Therm-O-Rite Products, Ltd., Toronto.



Any Chrysler Airtemp Packaged Air Conditioner can be converted to a year-round air conditioner simply by adding a heating coil.

Automatically Yours

© 1947 Chrysler Corporation

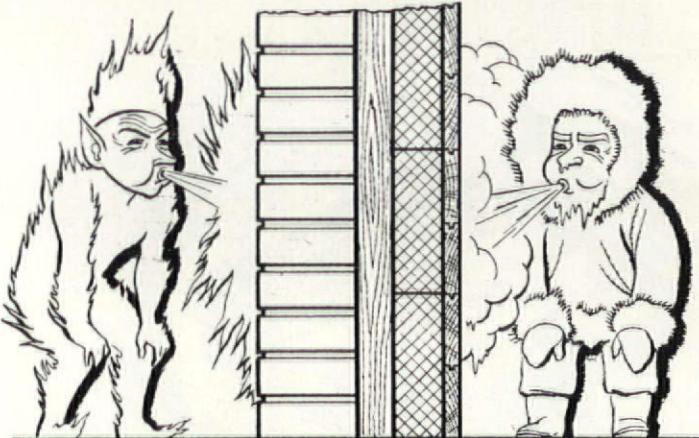


PACKAGED AIR CONDITIONERS

HEATING

AIR CONDITIONING

COMMERCIAL REFRIGERATION



WOLMANIZED LUMBER*

**doesn't mind the "rain"
that falls inside a wall**

Moisture squeezed out of super-cooled air is always a problem in refrigerated structures. And that moisture (or melting ice and frost) plays havoc with ordinary materials.

Use Wolmanized Lumber there and decay can't get a start. It's standard structural lumber made highly resistant to decay by pressure-treatment with Wolman Salts* preservative.

YOU SAVE ON UPKEEP

This pressure-treated lumber costs little more than untreated wood. You save money by eliminating expensive replacements. There's no odor. And this treated wood can be painted.

**AMERICAN LUMBER
&
TREATING COMPANY**

*Registered trademarks

WOLMANIZING

FLAMEPROOFING

CREOSOTING

1647 McCORMICK BUILDING, CHICAGO 4, ILLINOIS

SHOPPING CENTERS

wind up all bigger subdivisions, give the sponsors a continuing return on their housing enterprises.

Because "successful business centers are attractive plums for the land developer and community builder," Fritz Burns provides for one in most of the larger KCH communities. The provision is made in the early stages of land planning, although construction of the center is not begun until residential building is near completion. As head of KCH's Community Center Division, Burns first decides on the size of the commercial center (it is vitally important that it be no bigger than the community can easily sustain), then doubles the floor area to obtain the size of the adjacent off-street parking area. With the acreage thus determined, the center is strategically located on the site plan with reference to through traffic arteries (if any) and tightly zoned for its intended purpose. The center's location influences the residential street pattern, for traffic flow must be encouraged in that direction. It may also affect the zoning of the immediately surrounding residential area, for Burns frequently circles his community centers with a buffer zone for schools, churches and rental housing.

Through long experience, Burns has learned that a new community of at least 800 houses is required to justify and support even a modest business center—one comprised of a grocery store, butcher shop (or a combination supermarket), a drug store (with soda fountain and, possibly, a lunch counter), a dry goods and notions store (or its popular equivalent, the "five and dime") and an auto service station which need not be immediately contiguous. Such a group is considered a "reciprocal nucleus" which can serve the basic wants of the community and, by a mutual exchange of customers, can serve itself more successfully than if the various shops were individually established on isolated corners. If, by virtue of location, the community will naturally focus its buying attention on the local business center rather than dissipate it through heavy downtown shopping and if the center is connected with surrounding residential areas by major traffic arteries, a greater variety of shop and services is indicated.

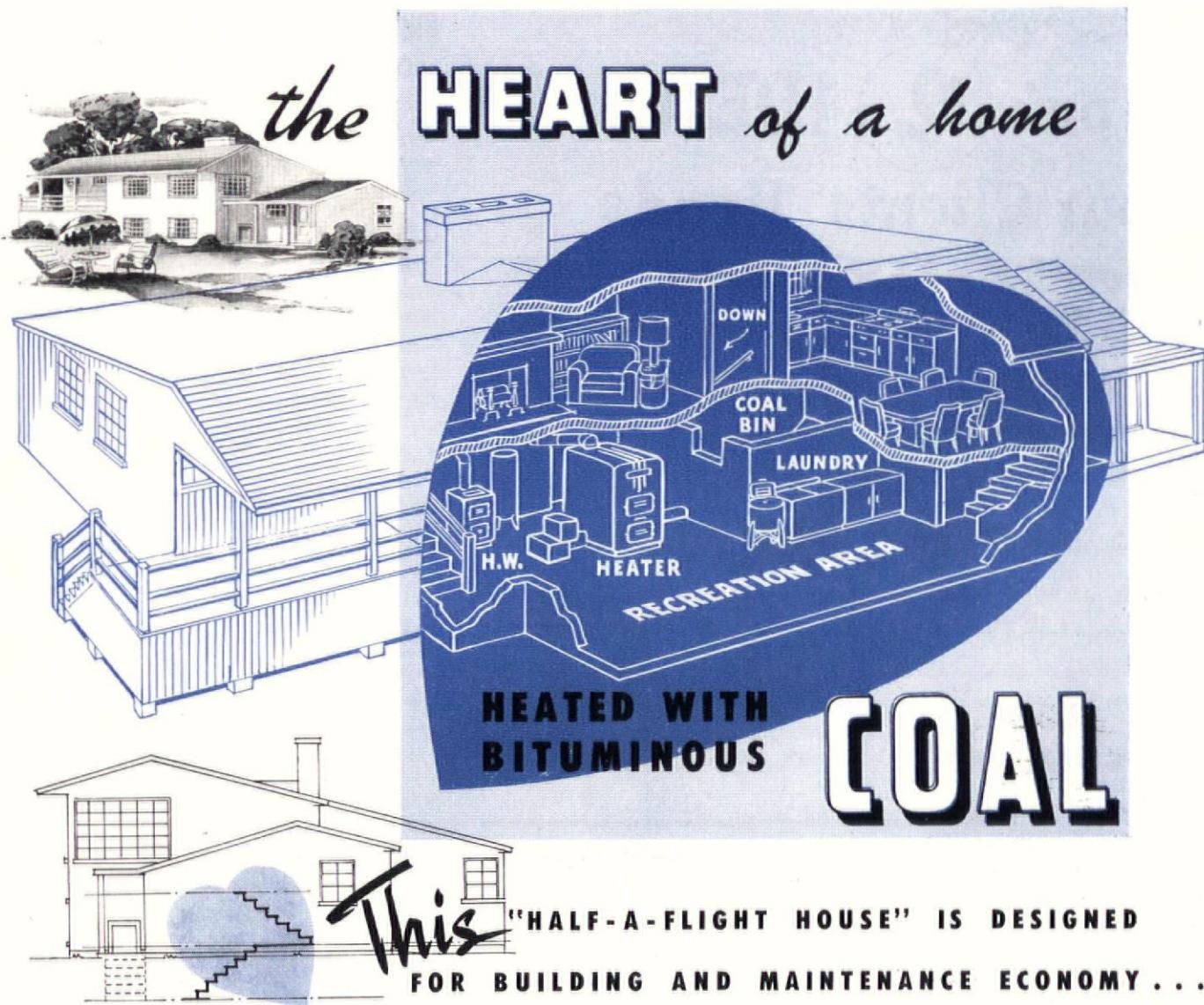
Experience has also taught Burns that shopping center results cannot be accurately predetermined by their sponsors. While a big background of houses and a heavily trafficked network of access roads are prerequisites, the determining factors are aggressive, business-minded merchants, high quality merchandise, attractive store design and airtight zoning.

Once a new subdivision is well under way, Burns attracts top-notch merchants to its business center with a brochure full of facts, figures and pictures documenting the principal advantages of doing business in a Kaiser-Burns community:

- A planned and controlled center in a planned community.
- Adequate and convenient off-street parking areas.
- A defined shopping area with a definite schedule of the types of business establishments which will occupy it.
- Assurance that all buildings will meet high standards of design and construction.
- Assistance in design and securing of building permits.
- Accurate estimates of the population and purchasing power.

Some merchants are permitted to build their own buildings; others buy or rent buildings constructed by KCH. Chain store organizations are considered particularly desirable tenants because of their established reputations, their drawing power and their volume business. Since leases are on a percentage-of-gross basis, volume business means volume profits for Kaiser Community Homes.

(Continued on page 156)



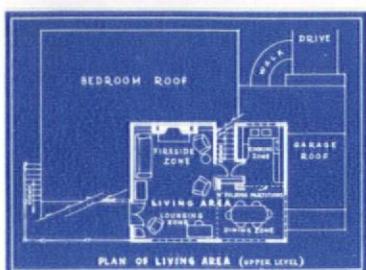
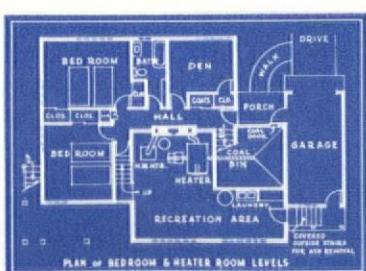
This "HALF-A-FLIGHT HOUSE" IS DESIGNED
FOR BUILDING AND MAINTENANCE ECONOMY . . .

Economy means systematic planning for maximum results.
In a home it means planning for living.

The "Half-a-Flight" house is designed to make living easier. The basement literally has been lifted "out of the hole", cutting excavation costs . . . doubling light and view . . . reducing possibility of dampness.

The home planner who favors single-floor plans, yet realizes the advantages of two floors, especially will endorse the "Half-a-Flight" house — because this dwelling combines single-floor living ease with the increased view and privacy found in two floors. Perfect living economy.

Planning for living includes planning for heating. Play safe — design for bituminous coal storage space, chimneys adequate for any fuel. A design for bituminous coal is a design for buyer satisfaction. Bituminous coal heat is economical, safe, clean, quiet . . . and there is an abundance of supply.



Living in the "Half-a-Flight" house is made easier by reduction in the number of steps from basement to outside, and by the covered ash disposal area. Note also the convenient coal delivery trap in the garage floor.

Norfolk and Western
RAILWAY

CARRIER OF FUEL SATISFACTION

We've put **2 IDEAS** in your Clients' Heads ... for BETTER LIVING

Idea
1

KITCHEN VENTILATION

No longer need Mrs. Housewife swelter in a stuffy kitchen! She's convinced that Emerson-Electric is tops in kitchen ventilating equipment.



Idea
2

HOME COOLING

No more sleepless summer nights! Mr. Home-owner now knows a house can be cooled after sundown by pushing the hot air OUT!



YOUR CLIENT-JOB Made Easier!

Your clients are sold on greater home conveniences. They've already "bought" the idea of greater comfort through Emerson-Electric kitchen ventilation and Emerson-Electric home cooling. They look to you to build the house that goes with them.

Again this year, Emerson-Electric is selling these two ideas in more than a score of popular magazines reaching thousands of present and prospective home owners. And again you'll find your plans more acceptable and your houses more saleable when you specify and install Emerson-Electric Kitchen Ventilating Fans and Home Cooler Fans.

For detailed specifications and complete information, write for free illustrated catalog No. 201 today.

THE EMERSON ELECTRIC MANUFACTURING CO.

ST. LOUIS 21, MISSOURI

Branches: New York • Chicago
Detroit • Los Angeles • Davenport

BUILDER BURNS STATES HIS CASE, outlines KCH's ambitions and accomplishments.

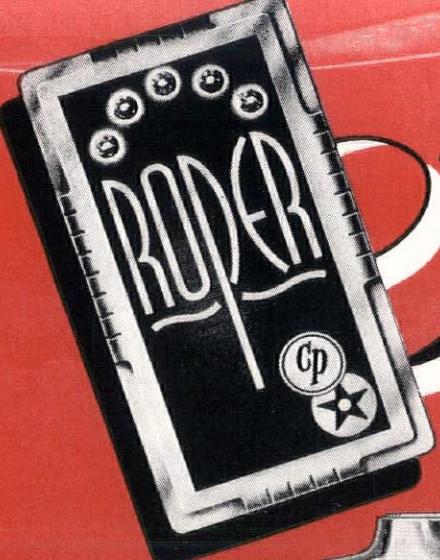
"When the smoke has cleared away from the so-called housing mess, it will be discovered that a better house, brand new, is being delivered for a lesser cut of the wage earner's dollar than ever before. What other industry can make that claim? Expert housers know this, that's why public housing is making a last desperate stand. They know that with a surplus of brand new livable houses available at \$50 per month (and I mean available in quantity—possibly a surplus within the next year by reason of keyed-up production), the inexorable law of supply and demand will find the houses ten years old available for \$40 a month. Houses that are 20 years old, available for \$30 a month (maybe less) which, under prevailing wage rates, will make housing an easier buy and within the reach of more people than any of the other necessities of life. If slum clearance programs do not get on their horse quickly and eliminate from our metropolitan areas buildings and houses no longer fit for habitation in order to make room for the avalanche of new housing that is forthcoming, we will soon have a surplus of housing in many cities.

"It is the simple ambition of Mr. Kaiser and myself to make progress in housing. When we think of housing, we must think of people. The two are inseparable. Therefore, progress in housing must not go beyond the people's choice either costwise or ideewise. People know a lot about houses because they live in them. Laboratory tests of new materials and new structural engineering are given sober consideration by the prospective home owner. But if his conclusions are to be in the affirmative, substance must be added by an adequate answer to what has been the case history of such a material or engineering principle under actual living conditions.

"To keep the public with us (and we are lost without it) we must keep one foot on solid ground as we cautiously extend the other into the realm of advancement. Many an adventurous soul in this business has been disappointed by apparent public reluctance to follow. But we must remember that a home is a long-term item. That which has been tried and proven for the past 25 years will be safe to try again for the next 25 years. That which has had purely wind-tunnel experience must be approached more cautiously.

"Advancement in any one particular item or material in a house may not be too great at once. Maybe such advancement is almost microscopic, but let us remember that there are almost 1,000 different items in a house. A ring-shafted nail that holds more firmly, a tighter window which at the same time works more easily, a copper tube that brings up water a little more quickly, a wall that damages a little less easily, an insulation with a slightly higher K-factor, a furnace a little more efficient and inexpensive, a sink countertop a little more sanitary, durable and resilient, a plaster that is a little more resistant to cracks, a more efficient use of materials to give a little more strength for a little less weight, a stronger adhesive material to bond the house together—all these things combined can make, are making and will make to a tremendous degree the progress in housing to which we have all looked forward. And such progress is in keeping with public thinking. Builders properly fortified with technical advice and prepared to do some missionary and educational work will find a public that is openminded and not too reluctant to follow wholesome and well-balanced progress. These are the objectives of Kaiser Community Homes, this is the field that we look forward to with such anticipation. This is the progress to which we have sincerely dedicated our efforts."

EMERSON MOTORS • FANS **ELECTRIC** APPLIANCES



Town and Country

"America's Finest Gas Range"



Jewels of Cooking Performance

"INSTA-MATIC" CLOCK CONTROL
EXTRA-CAPACITY "GLO" BROILER
HANDY SNACK BROILER
SPECIAL COFFEE BURNER
TOASTING COMPARTMENT
NOVEL CRISPING BIN
ALUMINUM GRIDDLE

ROPER'S "THOUSAND DOLLAR BEAUTY"

pre-viewed at the A. G. A. convention in Atlantic City

Truly the toast of the industry, the glamorous new extra-capacity,

ROPER "Town and Country" now "Automatically Yours" . . .

it's in production. Sell it with pride. Order as 47-9310.

how to insulate masonry walls
...see Balsam-Wool data sheets!

Insulating masonry walls is only one of the many insulation subjects covered by Balsam-Wool Data Sheets. These handy sheets represent years of research in gathering vital facts on insulation application—solving tough insulation problems. The whole set of Balsam-Wool Data Sheets—containing 32 sheets in all—is yours for the asking. Just mail the coupon—no cost or obligation!

Balsam-Wool



SEALED INSULATION

BALSAM-WOOL • Products of Weyerhaeuser • NU-WOOD

WOOD CONVERSION COMPANY

Dept. 147-3, First National Bank Building, St. Paul 1, Minnesota

Please send me set of Balsam-Wool Application Data Sheets.

Name

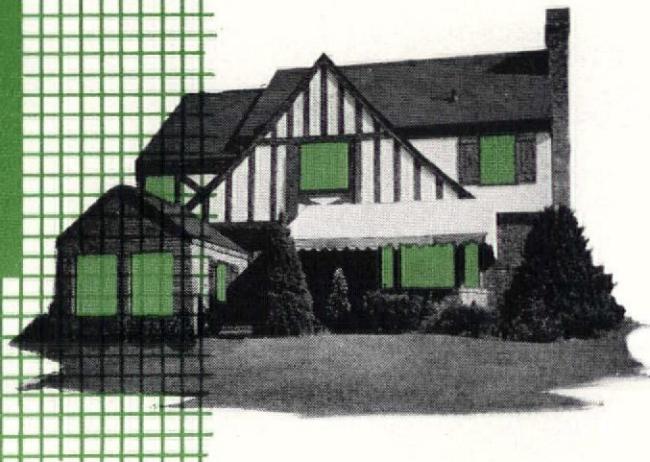
Address

City.....*State*.....

Specify the screening that can't rust!

8 ADVANTAGES OVER METAL SCREENS

- Permanent — can't rust.
- No upkeep — never needs painting.
- Cannot "bleed" and stain house.
- Easier installation — handles like cloth, cuts with scissors.
- Safer installation — no jagged edges or sharp splinters.
- Six times impact strength of metal.
- Tinted for smarter appearance.
- One-fifth weight of metal.



Firestone *Velon**
TINTED SCREENING

All metals oxidize, some more rapidly than others. When used in fine strands for screening, any metal will disintegrate before the combined attack of moisture, wind, salts and acids present in every atmosphere.

Velon screens can't corrode, can't rust. Yet *Velon* costs no more than good metal screening.

And *Velon* gives you these other advantages over metal screening: no upkeep, never needs painting . . . cannot "bleed" and stain building . . . easier installation: handles like cloth, cuts with scissors . . . safer installation: no jagged edges or sharp splinters . . . six times the impact strength of metal . . . one-fifth the weight of metal.

Specify *Velon* . . . now available in standard widths and gauges. For full-color booklet on *Velon*, and free samples, write Firestone, Akron.

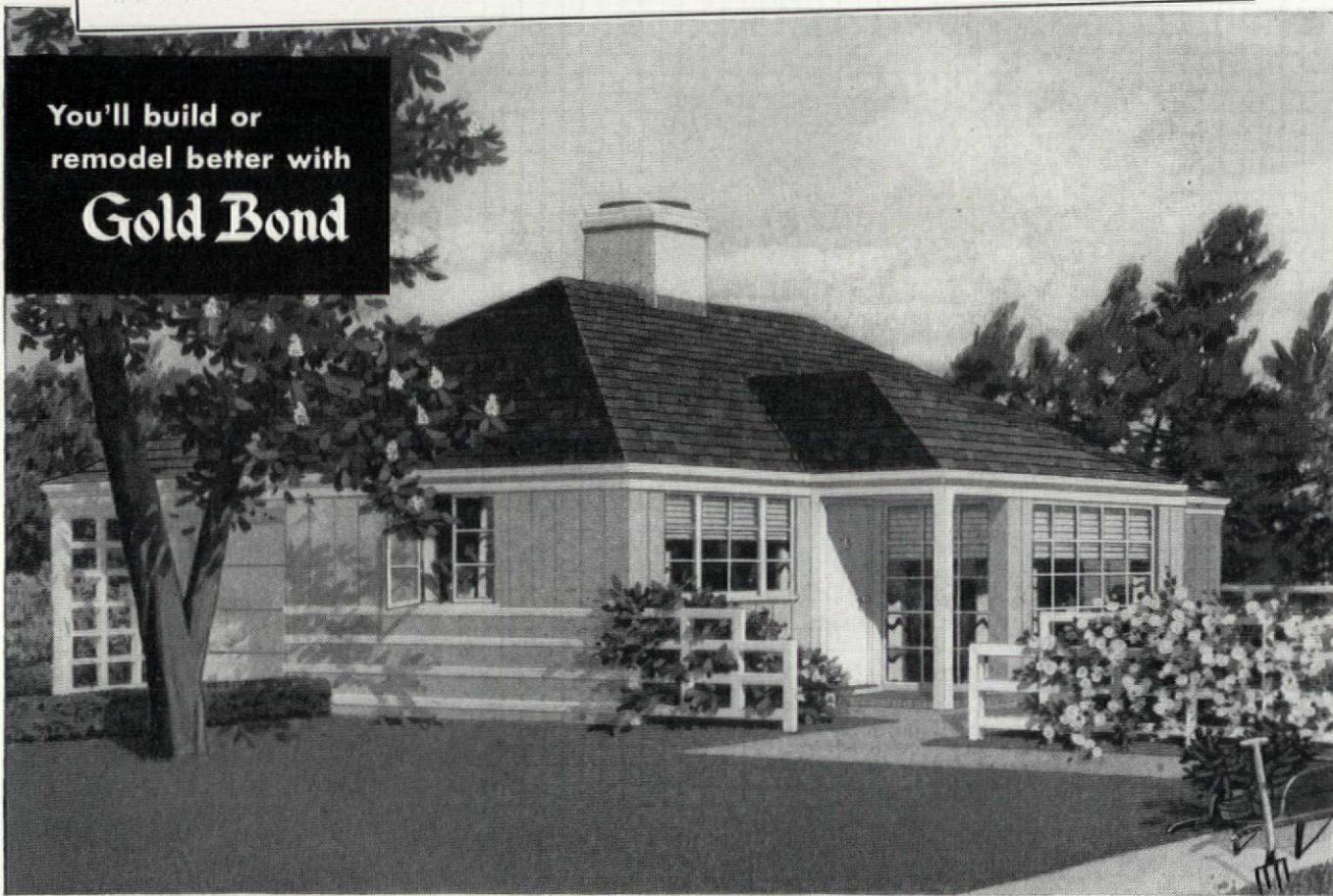


Listen to the Voice of Firestone Monday Evenings over NBC

*TRADE MARK

Here's a suggestion for a low-cost house with a wide awake, down-to-earth look about it! This ad appears in full color in the Saturday Evening Post and is another in the Gold Bond series, now in its second year. Stresses the use of Gold Bond Building Materials, sure, but it also plays up the Pride of Home Ownership angle and really does a job for the whole building industry. Thousands of folks will write us for plans of this home and the answer will be, "See your local architect!" National Gypsum Co., Buffalo 2, N. Y.

You'll build or
remodel better with
Gold Bond



You can start building sooner if you start planning now. See your local Gold Bond Dealer!

Wonder how many Post readers feel the way I do?

"Someday we're going to have our house, Bill and I. With grass around it, and the blue bowl of the sky over it, and a tree of our own to carve a couple of hearts on if we want to. We're saving, and planning, and each day brings us closer to moving in!"

The house you will build will be a "wonder house" too. For, since Dad built, modern science has taken a hand in new construction materials and methods. Outer walls, for example, now add greater strength and fireproofing when Gold Bond storm sealed gypsum sheathing supplies the base for outside finish. Inside walls and ceilings will give years of trouble-free service when they're made

of Gold Bond fireproof gypsum lath and plaster. Heating costs are reduced as much as 40% in new and old homes with fireproof high-efficiency Gold Bond Rock Wool insulation. And summer comfort is doubled.

You can plan on these scientific building improvements and many more to give you a house that is better in every respect than any that has ever been built before. A house that will serve for many long and happy years with the least amount of repair and upkeep expense.

There are over 150 research produced Gold Bond products that cost no more to specify and use than

ordinary building materials. Each of them is engineered to do a specific job better. If you want Gold Bond results, be sure to speak to your architect and builder about using Gold Bond products!

Today our entire production can't keep up with demand. But just the same our more than 10,000 Gold Bond lumber and building material dealers are doing their best, helping veterans to get housed, helping their customers in every way they can. See your Gold Bond dealer first whether you plan to build or remodel. He can help you get what you want, and get it better. Not always right away but tomorrow sure! National Gypsum Co., Buffalo 2, N.Y.

Over 150 tested Gold Bond Building Products for new construction or remodeling add greater permanency, beauty and fire protection. These include wallboard, lath, plaster, lime, sheathing, wall paint, insulation, metal and sound control products.

**DEMAND
THESE SIX
GOLD BOND
FEATURES
IN YOUR
NEW HOUSE**

GOLD BOND FIREPROOF GYPSUM SHEATHING



Big, weatherproofed panels of Gold Bond Storm Sealed Gypsum Sheathing add great strength and built-in fire protection. Costs less than old-style sheathing.

GOLD BOND FIREPROOF GYPSUM LATH



Gold Bond Gypsum Lath is the perfect plaster base. Can't warp, expand or contract. Adds fire protection and unusual strength for better wall and ceiling construction.

GOLD BOND FIREPROOF GYPSUM PLASTER



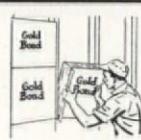
Gold Bond Gypsum Plaster is especially processed to bond perfectly with gypsum lath. Builds firm, smooth, rock-like walls and ceilings with greater durability and beauty.

GOLD BOND FIREPROOF FINISH LIME



Over the plaster, goes a coat of Gold Bond Finish Lime. This is the smooth white finish that you see in a new house before the wallpaper or paint is applied.

GOLD BOND FIREPROOF ROCK WOOL INSULATION

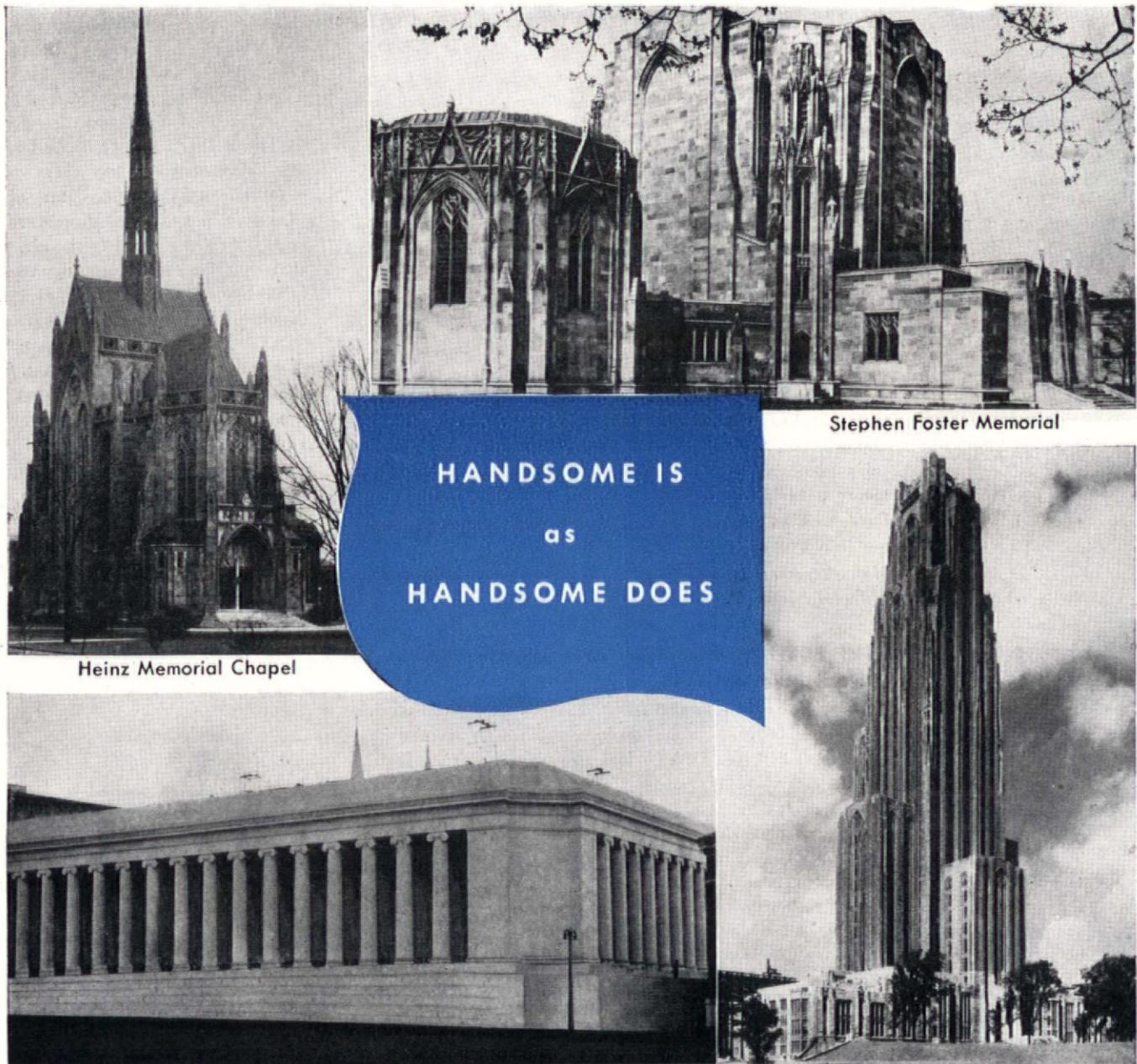


Builds a fireproof blanket of insulation around the house for greater year 'round comfort, family health and savings up to 40%. Available for new or old homes.

GOLD BOND SUNFLEX 1-HOUR WALL PAINTS



Dries in one hour with no objectional painty, after-odor. Easier to apply. This modern insulation is available at your dealer's in a full range of colorful tones.



Heinz Memorial Chapel

Stephen Foster Memorial

HANDSOME IS
as
HANDSOME DOES

Mellon Institute

Cathedral of Learning

District Heating simplifies building design, provides more usable space at lower operating and maintenance costs

No ugly stacks mar the beauty of this group of buildings at the University of Pittsburgh. Unhampered by the necessity of allotting space for heating units, fuel delivery and storage, and ash removal, designers enjoyed full freedom of line for beauty, while providing maximum utility for every foot of space in these fully functional structures.

District heating made it possible. Distribution is currently being extended to include a large

group of hospital buildings. The system also effects savings in fuel consumption, reduction in required maintenance personnel, and greater protection from fire and explosion. Because it eliminates the production of smoke and soot in the area, cleanliness and lasting beauty are assured for every building in the group.

In this instance, as in hundreds of other major central heating systems, Ric-wil conduit provides efficient, economical heat distribution.

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS
THE RIC-WIL COMPANY • CLEVELAND, OHIO

AGENTS IN PRINCIPAL CITIES

BUILDING REPORTER

FROZEN FOOD CABINET designed for urban homes, farms, institutions.

This 23 cu. ft. capacity Quick Freeze and Zero-hold Cabinet is designed to provide maximum inventory convenience, operate with minimum power consumption and perform with the least possible servicing. An upright model, its 16 sq. ft. of horizontal contact freeze plates may be used to sharp freeze (-20° F.) over 300 lbs. of beef at once. Or, its entire capacity can be used to store over 900 lbs. of frozen foodstuffs. Interior is divided into 4 roomy shelves which offer inventory convenience. Chain-stopped, drop-doors on all compartments act as coldspill stops. The cabinet, finished in white enamel and equipped with Naval Bronze hardware is constructed of Marine plywood. It has 6 in. glass wool insulation packed between aluminum foil lined, non-conductor, sweatproof and vapor sealed walls. Shipped in 3 sections for easy handling, the unit can be moved through a 24 in. doorway, requires about 12 sq. ft. of floor area and 7 ft. head room. It has a self contained, securely mounted $\frac{1}{3}$ h.p. compressor, $\frac{1}{2}$ h.p. motor and is wired for 110v. current. According to the manufacturer, cost of operation at 0° F. runs about \$1.80 per month at average rate of 4¢ per kWh.

Manufacturer: Freeze Service Corp., 7900 Germantown Ave., Philadelphia 18, Pa.

HOME FREEZER of average family capacity, features all aluminum construction.

Reynold's all aluminum, 6 cu. ft. Eskimo Freeze, measuring 40 in. long, 36 in. high and 28 in. wide, has an average food capacity of 210 lbs. Of sufficient size for the average family, its compact chest type design allows convenient use in the kitchen. The table-height, flat top can serve as additional work space, or if necessary, can replace the ordinary kitchen work table. A full length cover provides ready access to the entire food compartment. All aluminum, it can be easily lifted and is equipped with a stop to prevent opening past a 95° angle. Because of horizontal opening, cold does not run out of the unit when lid is open. Interior of the freezer is one large compartment finished in natural, stain-proof, rust-proof aluminum. There are no shelves or partitions. Temperature is maintained at 0 to 5° below zero F. by an automatic, factory set thermostat which, according to the manufacturer, is low enough to freeze any fresh food in 12 hours. Cover and body of the chest are thoroughly insulated with a 4 in. blanket and in case of power failure a red signal indicator warns of the condition. In the lower section of the cabinet is the condensing unit, powered by a $1/5$ h.p. motor. Compressor and motor are hermetically sealed as a single unit. The freezer is finished in white baked enamel, total weight is 185 lbs.

Manufacturer: Reynolds Metals Co., 2500 S. Third St., Louisville, Ky.

SMOKELESS COAL HEATER meets rigorous smoke prevention ordinances.

The Moore smokeless coal heater, embodying a new principle by which all fuel gases are consumed, meets the smoke prevention ordinances of various cities. Developed in collaboration with the Battelle Institute and the Bituminous Coal Research Institute, the average use of coal in the new design is said to be 70-80% efficient as compared to 30-45% in conventional up-draft designs. Operating cost is said to be cut in half. In conventional coal heaters fuel is burned by an up-draft from below the grates. This not only wastes heat up the chimney but also removes gases before they are ignited

and consumed, thus causing objectionable smoking. In the new Moore heater, a cross draft principle has been introduced. Both primary and secondary air is brought in at a single air intake above the grates. Part of the air is carried up through the primary air duct and then diverted down onto the top of the whole fuel bed to aid combustion and to prevent coking. These down currents also carry volatiles down for combustion in the burning coal. Secondary air is carried through a cross-wise duct and diverted downward to virtually the top of the grate. A third portion of the air, which is diverted downward at the intake, meets the other two completing the process of full combustion. Volatile gases and smoke are forced through flame, ensuring use of their heating value and eliminating the possibility of their being dissipated through the chimney. The new heater burns 16 hrs. on high firing with only one loading, and 72 hrs. on low fire, or banked. Coal consumption rate is said to be 4 to 10 lbs. hourly, depending upon heater size. Three model heaters will be produced, with production scheduled for March.

Manufacturer: Moore Corp., Joliet, Ill.

FORCED WARM AIR FURNACE designed for small home or individual apartment heating.

Mor-Sun Utility Model U-4-G Furnace, rated at 72,500 BTU input and 58,000 BTU bonnet output, is designed for forced warm air heating of small homes or individual apartments. A gas-fired, completely assembled, packaged unit, it can be

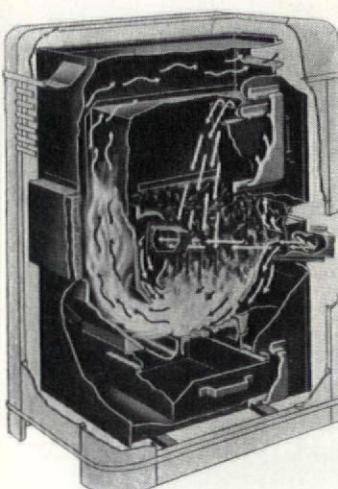


used in basement, utility room, alcove or closet installations. Burner and control access door, blower and motor access door, filters, and vent flue are placed on the front of the unit, which makes possible, closet installation in new or remodeled homes or apartments. Its centrifugal type blower, which can be operated in summer to circulate air through the house, is rubber mounted. Burner is a fixed orifice, ventura tubular design, producing a semi-luminous, full floating convex flame. There are no baffles, reverse flue travel, dirt or condensation traps. All parts of the unit including casing are die pressed steel, and the furnace features rugged one-piece welded construction. Four supporting legs carry firebox weight and a stiff, ribbed upper tray separates the one-piece welded firebox and blower compartment. Model U-4-G is supplied with automatic controls and complies with AGA requirements. It requires but 22 in. x 25 in. of floor space and is $58\frac{3}{4}$ in. high.

Manufacturer: Morrison Steel Products, Inc., 601 Amherst St., Buffalo 7, N. Y.

OIL BURNING FURNACE for basement installation in average five room house.

Model 377-G is a completely automatic, gravity-circulation, oil-burning furnace with a bonnet capacity of 70,000 BTU per hr. and a gross output of 74,000 BTU per hr. Designed for basement installation and suitable for heating an average five room house, its compact steel cabinet frees basement area for recreational and other activities. A sheet of asbestos insulation between cabinet panel and (Continued on page 164)



There is no substitute for
TRUE CHURCH TONE
or for strict conformity to the specifications
of The American Guild of Organists



**PARTIAL LIST OF AMERICAN GUILD OF ORGANISTS SPECIFICATIONS
TO WHICH THE WURLITZER ORGAN CONFORMS:**

PEDAL CLAVIER

Compass: 32-note, CCC to G
 Radiation: 8'-6" radius
 Concavity: 8'-6" radius
 Vertical: 29½" between playing surfaces of middle E natural pedal key and the playing surfaces of the natural keys of the Great manual.

PEDAL ACCESSORIES

Swell and Crescendo Pedals: Heel end of playing surface of shoes overhang sharp keys of pedal clavier within the 1¼" maximum forward position, and the ¾" maximum distance back of them. Swell Pedal located directly in the center of middle E-F gap on pedal clavier.

SWELL AND GREAT MANUALS

Compass: CC to c⁴, 61 notes.
 Keys overhang a distance of 4" from the front edge of the Swell manual to a perpendicular line touching the front edge of the Great manual keys.

Surface-to-surface: Swell manual is 2½" above Great manual.

ORDER OF STOPS

Divisions of stop tablets have the following sequence from left to right on console: Pedal, Swell and Great.

The order of stops within these divisions are: 16'-8'-4'-2½'-2' and mixtures. Stops assume their normal position according to pitch in the Major Bass, Diapason, Flute, and String divisions. Loudest to softest is the order within pitch-groups. Reeds follow the highest pitch stops of the above groupings.

Organists who complain, quite naturally, that electronic organs have been unfamiliar and inconvenient will find that the new Wurlitzer Organ completely dispels this objection. All essential playing dimensions specified for modern two-manual pipe organs are faithfully adhered to in the design of this superb new instrument.

Pastors and laymen who might not be equally interested in such technical details will, however, be equally enthusiastic about the Wurlitzer's tonal structure. By utilizing the almost infinite variety of electrical impulses produced by free reeds, the Wurlitzer Organ provides a rich family of reverent tones comparable only to the pipe organ itself.

The result is perfection of church music, coupled with amazing economy of space. Your further inquiry is suggested; write Dept. FO-3, Organ Division, The Rudolph Wurlitzer Co., N. Tonawanda, N. Y.



The WURLITZER ORGAN
Series 20 Two-Manual

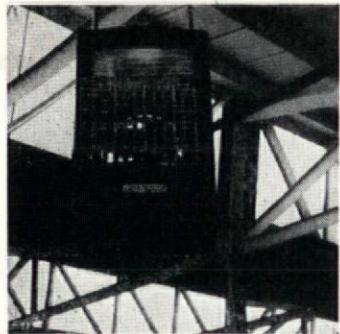
interior baffles insures minimum heat loss, and a front access door permits easy inspection and maintenance. The furnace is equipped with an injection jet vaporizing pot type burner and a large capacity steel combustion chamber with built-in flame baffle to increase flame travel and insure maximum operating economy. Low fire and pilot fire are controlled by an electrically operated switch. Low and high fire rings are removable for easy maintenance. A 6 in. automatic draft regulator, bonnet limit switch, thermostat, constant level safety float valve, fuel limit control and built-in transformer are supplied with the unit. Model 377-G meets Underwriters Laboratories Standards, comes knocked down in two packages for shipment.

Manufacturer: Heating & Appliance Div., Evans Products Co., 15310 Fullerton St., Detroit, Mich.

SUSPENDED UNIT HEATER with improved features; ROOM COOLER adjustable to window size.

The Palmer Manufacturing Corp. has announced production of an AGA approved, redesigned, Palmaire suspended unit heater and a modern styled, window model Sno-Breeze evaporative cooler. The heater, a fan type unit with 100,000 BTU rated output, has a streamlined, one-piece welded steel cabinet. Other features include improved adjustable air deflectors and a sliding, drawer type assembly for controls and burner which provides easy inspection and cleaning. Palmaire hangs from the ceiling to permit full use of store or factory floor area and may be equipped with thermostatic control to provide automatic temperature regulation. No central heating plant or duct system are required. The modern styled window model Sno-Breeze evaporative room cooler has metal fill-ins which make it adjustable to windows from 24 to 34½ in. wide. Easily installed, adjustable directional louvres, motor and water switches on front of the cooler provide complete control of operation. Other features include: recessed fan orifice to prevent all air loss or recirculation; Sno-Fluf cooling pad of pure, odorless aspen, quiet efficient 16 in. fan powered by a 1/25 h.p. motor and a 22 gauge, rust resistant steel cabinet.

Manufacturer: Palmer Manufacturing Corp., West Jefferson & 7th Ave., Phoenix, Arizona.



PORTABLE ELECTRIC HEATER provides adequate heat for small rooms or supplementary heat for larger areas.

The 1,250 w. Westinghouse portable electric heater, weighing less than 5½ lbs., is usable wherever a conventional 110-120 v. convenience outlet is available. It provides adequate heat for small areas such as bathrooms and breakfast nooks, or may be used for supplementary heating of larger rooms. In operation cool air enters the bottom of the heater and flows upward over the surfaces of a vertical semi-cylindrical heating element consisting of nickel-chrome wire supported on the outside of a ceramic post. Scientific design of both the unit proper



(Continued on page 166)

Orchids to... Ferro-Therm

Bus. Telephone 203

Res. Telepho

December 10, 1946

"Say It With Flowers"
EDGAR KLUG
BLUE POINT, N.Y.

American Flange & Manufacturing Co., Inc.
30 Rockefeller Plaza
New York 20, N.Y.

Gentlemen:

This will confirm the facts given to you regarding the performance of your product, Ferro-Therm Steel Insulation, in the fire of November 7 in one of our buildings. The Ferro-Therm installation consists of a walk-in refrigerated room. The walls, floor, and ceiling of this room are insulated with 4 sheets of #30 U.S.G. Ferro-Therm.

This room is located in the boiler house of our building. On the morning of November 7, fire broke out and completely gutted the interior of the boiler house. The fire was freely blazing by the time it was discovered, and it is probable that 4 or 5 hours elapsed from the outbreak of the fire to the time it was completely extinguished. The fire burned freely around the Ferro-Therm insulated room and charred the wood sheathed refrigerator door of the room.

However, after the fire was extinguished and we opened the refrigerated room, we found that the fire temperature of the room, and no smoke had entered the room were entirely undamaged. These facts are given to you with the understanding that they may be reproduced in your Ferro-Therm data as they provide interested parties pertinent information regarding the insulation value and fire protection of your product.

Very truly yours,
Edgar Klug

Ferro-Therm
STEEL INSULATION

Fully Protected By U. S. and Foreign Patents Issued and Patented

AMERICAN FLANGE & MANUFACTURING CO., INC.
Ferro-Therm Division, Dept. A.F.
30 Rockefeller Plaza, New York 20, N.Y.

Please send me, without obligation, complete information on Ferro-Therm Steel Insulation.

Name

Firm

Street

City

Zone

State

AMERICAN FLANGE &
MANUFACTURING CO., INC.,
30 ROCKEFELLER PLAZA,
NEW YORK 20, N.Y.

and its heating element augment air circulation. The heater, finished in satin aluminum and equipped with carrying handle, measures 15½ in. high, 10¾ in. wide and 9⅜ in. deep. It is approved by the Underwriters Laboratories, Inc.

Manufacturer: Westinghouse Electric Corp., 306 Fourth Ave., Box 1017, Pittsburgh, Pa.

GRILLES AND REGISTERS for commercial, industrial and institutional air distribution.

Tri-Flex Grilles and Registers provide complete and efficient control of air delivery in three ways: control of direction, throw and air drop. Tri-Flex Registers with multi-shutter damper also afford positive volume control. The line is made up of various combinations of three flexible units: Tri-Flex Grille with individual adjustable vertical face bars, horizontal

deflector blades and positive control multi-shutter damper. The vertical face bars of the Grille are pivoted at the front for perfect alignment regardless of setting and the individually adjustable horizontal deflector blades are designed with an overlap feature that permits complete closing of any portion of the grille. Tri-Flex T 60 Grille provides the simple grille with vertical face bars. Tri-Flex T 64 Double Deflection Grille combines grille and deflector blades. Tri-Flex T 62 Multi-Shutter Register combines grille and multi-shutter damper. Tri-Flex T 642 Double Deflection Multi-Shutter Register, an all purpose unit affording maximum flexibility for both directional and volume control, combines grille, horizontal deflector blades and multi-shutter damper. These grilles and registers are being offered in 26 standard sizes, which according to the manufacturer means lower prices per unit.

Manufacturer: Tuttle & Bailey, Inc., New Britain, Conn.

MULTI-LOUVRE DAMPER provides uniform control, quiet operation.

Featuring effective, uniform air control, quiet operation and a tamperproof locking mechanism, the new Aerofuse Multi-Louvre Damper offers many advantages. The multi-louvre construction divides the air supply stream, resulting in uniform distribution and more minute adjustment of the air volume. Because the effective area of the damper in the open position is greater than that of the corresponding size diffuser, volume adjustment can be accomplished without affecting the capacity of the diffuser. As air turbulence passing the louvres is minimized, a decreased noise factor is assured. The damper can be completely closed, opened or left in any position by turning the handle in the center of the unit. Louvres can be locked in position, and if desired, operating handle and rod may be removed.

Manufacturer: Tuttle & Bailey, Inc., New Britain, Conn.



STEEL UTILITY WINDOW has ventilating section adjustable for up or down draft.

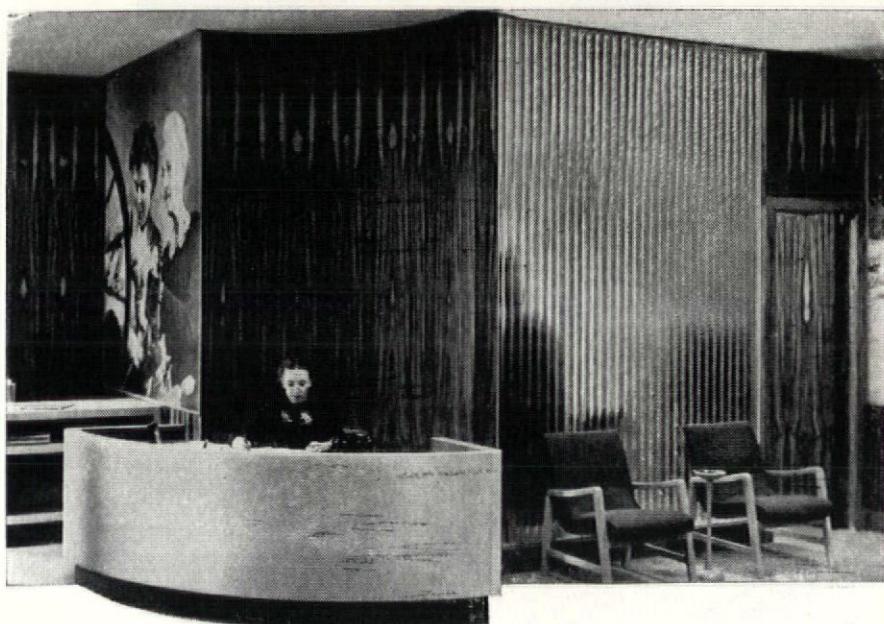
Copco all steel Utility Window is constructed with a fixed lower section and an upper ventilation section that opens inward to allow free passage of air into the room. Easy action side arms permit opening to any angle and makes possible adjustment to an up or down draft position. A spring locking device with convenient wire pull-rail attachment simplifies opening and insures weather-tite closing. Easily installed in both masonry and frame buildings, the 4-light unit is suitable for use in garages, small commercial and general utility buildings. It is also recommended for basement installations where greater light is desired. The new window measures 3 ft. 6⅓ in. x 2 ft. 8⅔ in. Glass sizes in upper vent lights are 15 x 20 in. and in lower lights 15⅓ x 20 in.

Manufacturer: Copco Steel and Engineering Co., 14035 Grand River Ave., Detroit 27, Mich.

PLASTIC GLAZING MATERIAL for use where light is desired and weather barrier a necessity.

Made by laminating a lightweight cord net between two sheets of cellulose acetate, Richglaze admits over 60% of the sun's ultra violet rays. Transparent, flexible, waterproof, and shatterproof, it is said to have long

(Continued on page 170)



How to Make a Good Impression

Look Magazine does it with a reception room finished in strikingly grained Goncalo Alves Flexwood, set off by panels of corrugated glass.

You can do it every time you specify Flexwood for interiors.

Here is genuine wood veneer made pliable by a patented process and mounted to strong fabric backing . . . a versatile, durable, decorative material. Flexwood gives you all the warmth and beauty of the world's finest woods . . . in a form that's ideally suited for quick and easy application either to old plaster walls or for new construction.

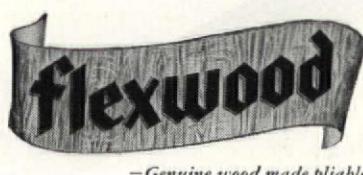
Flexwood lends itself to any decor . . . from sheer hung treatments of modern curved surfaces to traditional paneled effects.

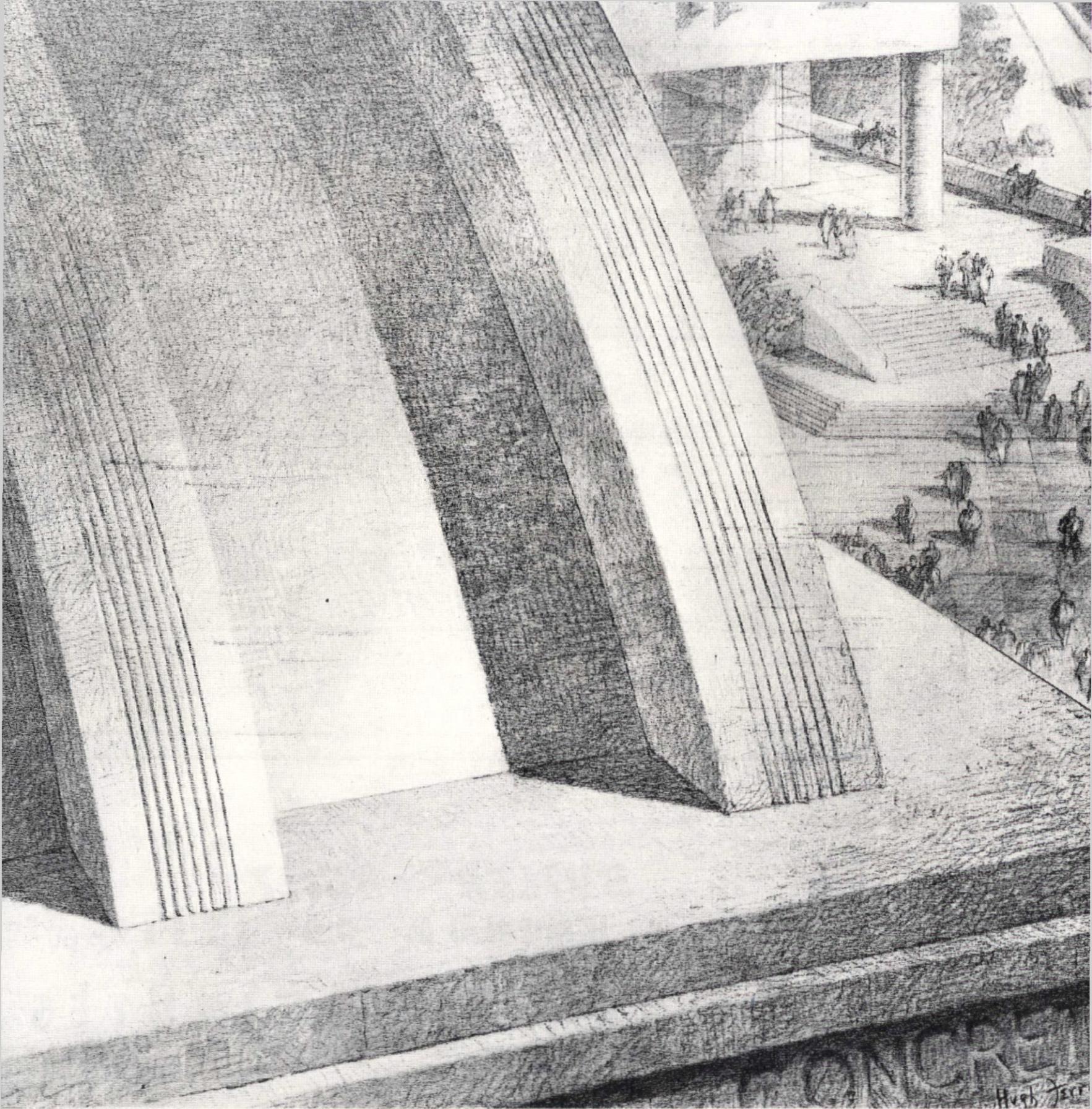
We'll be glad to send you full information on the wide variety of fine woods available. Write today.

UNITED STATES PLYWOOD CORPORATION
Dept. F, 55 West 44th Street, New York 18, N.Y.

FLEXGLASS — the Glass that Bends. Genuine glass rectangles mounted on flexible fabric backing. Readily cemented to flat or curved surfaces. Mirrors, dewdrops and opals . . . in many different colors.

Flexwood and Flexglass are manufactured and marketed jointly by United States Plywood Corporation and The Mengel Company.





ARCHITECTURAL CONCRETE

The architectural vigor of these concrete arches for long span roofs is revealed in this drawing by Hugh Ferriss. It is fifth in a series of delineations showing the economy and adaptability of Architectural Concrete for firesafe construction of apartments, hotels, hospitals, schools, industrial and commercial buildings.

P O R T L A N D C E M E N T A S S O C I A T I O N

D E P T . A 3 - 7 , 3 3 W E S T G R A N D A V E N U E , C H I C A G O 1 0 , I L L I N O I S

A national organization to improve and extend the uses of concrete...through scientific research and engineering field work

HOME BUILDING CONTRACTORS

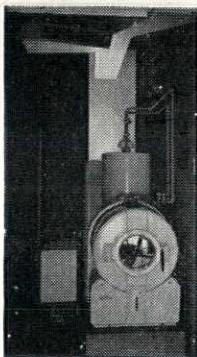
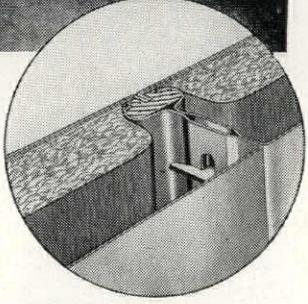
NOW



Insulating Efficiency Equal to 12" Brick Wall

Tests by F. B. Rowley (Prof. of M. E., Univ. of Minn.), Midwest Research Institute and National Housing Authority. The easily applied blanket insulation, coupled with the reflective insulation of aluminum makes the Butler Boulevard an all climate home—cool in warm countries and warm in cold regions.

Home building contractors are invited to visit and inspect exhibition homes at Kansas City, Galesburg and Minneapolis.



You Can Finish The Interior In Metal Or Any Conventional Material Such As Lath and Plaster, Plywood, Composition Board, Etc.

Note the wood furring strip above. It's locked into the jaws of the metal stud. It's grooved to receive and hold inside walls of metal. Or, to it may be attached plywood, sheetrock, composition board, or lath for plastering. Customers choice of interior decorative wall finishes may be applied. EXTERIOR WALLS ARE TREATED FOR CONVENTIONAL PAINTING WITH PLAIN, SAND FINISH OR STUCCO TEXTURE. From every standpoint Butler Built Boulevard Homes are arrangeable to present varying customer appeal.

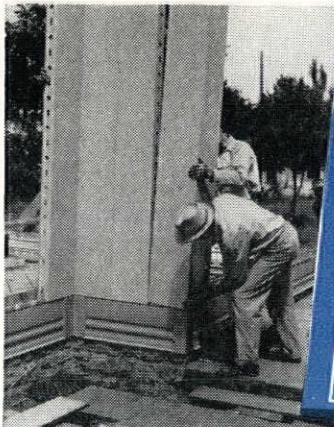
At left, compact utility room.

A Packaged Home Which You Can Construct in 20 Modern, Yet Traditionally Styled Arrangements To Fit Customer Personalities.

People are living in Butler Built Aluminum Houses—enjoying a new high in safety and comfort—a new low in economy of ownership and maintenance. At Butler plants production is going up fast. Deliveries are being made. Home building contractors are constructing others to suit individual tastes from precision parts delivered on the site in packages. No waiting. All materials of uniformly high quality. No need to resort to inferior materials or substitutes. From foundation to finished home is a matter of about 3 weeks. Think what that means to your turnover. Here is a combination of factory and on-the-site construction which brings the modernity of metal to home building as surely and soundly as it came to motor cars, planes, trains and ships.

Studded Metal Panels Key-lock Together To Form One of Strongest of Structural Systems.

The key to speedy, high strength home construction is an entirely new patented system of structural members integrally formed into panel sections of skin stressed aluminum. Placing a panel and key-locking it into position is a matter of minutes. It is a simple operation comparable to setting studs and attaching sheathing and siding in conventional construction. Framework, walls, partitions, ceilings and steel rafters can be constructed in 3 or 4 days. Throughout, the construction is such as to facilitate window and door hanging, wiring, plumbing and other finishing operations.



Boulevard Homes

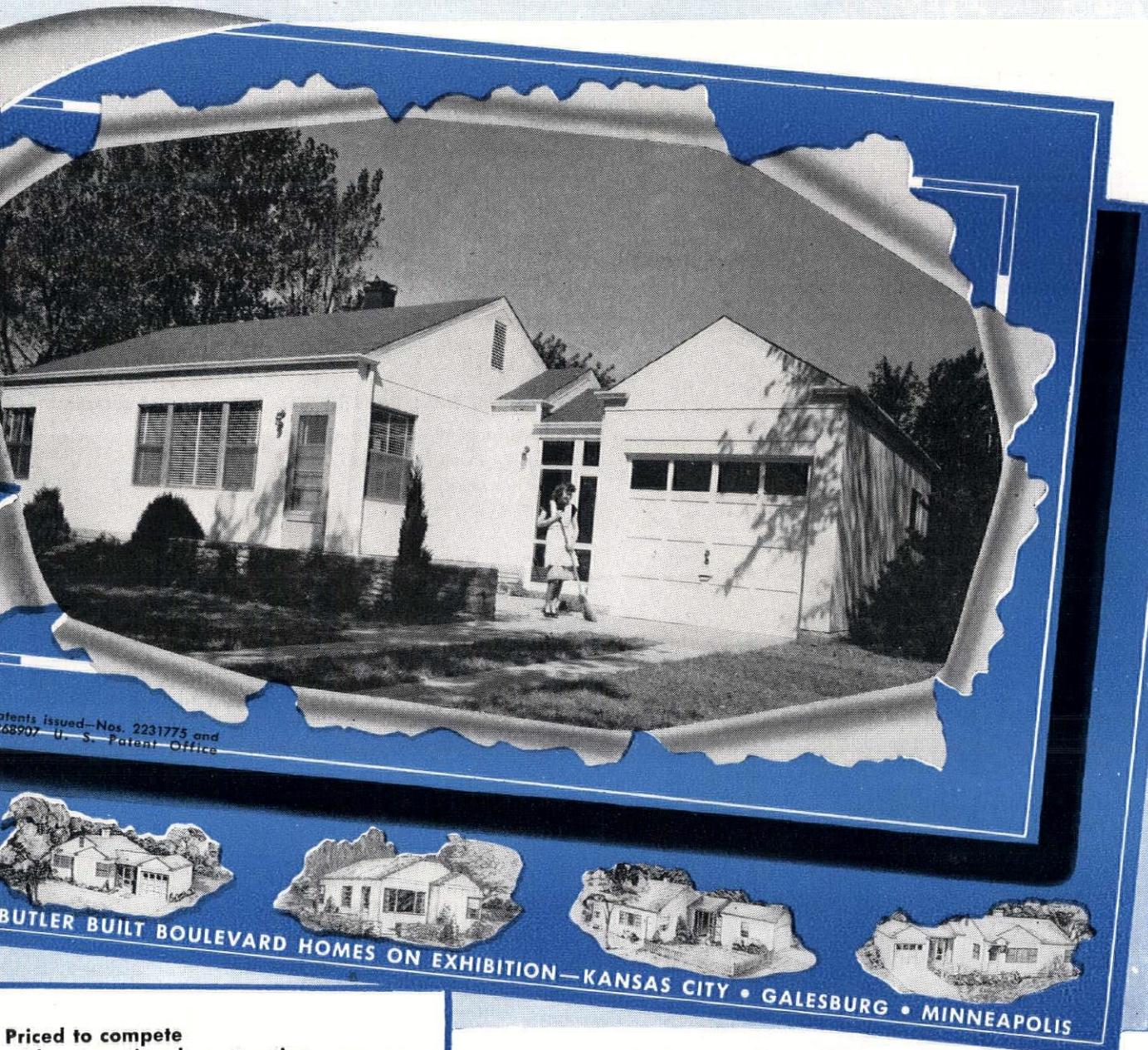
BUTLER  **BUILT**
Reg U.S. Pat. Off

OF ALUMINUM OR STEEL

ONE EVERY 80 MINUTES



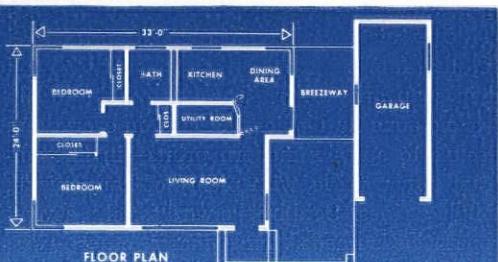
You Can START and FINISH HOMES In DAYS Instead of MONTHS!



Patents issued—Nos. 2231775 and
68907 U. S. Patent Office

Priced to compete with conventional construction.

Although of Aluminum, the base price of Butler Built Boulevard Homes is such as to permit home building contractors in most areas to finish and sell profitably against conventional construction. Garage, breezeway and extras for altering the styling are nominally priced.



Now Being Delivered—Now Being Lived In. Sold Only To Qualified Home Building Contractors.

Butler Built Boulevard Homes, F.H.A. financed, are being lived in. Deliveries are being made. Production is going up rapidly toward a potential factory capacity of 3 every 4 hours. Home building contractors WHO want to cash in on going production and a growing trend should SEND FOR FULL DETAILS NOW, then visit our exhibition homes.

BUTLER MANUFACTURING COMPANY

Factories: Kansas City, Galesburg, Minneapolis

SEND
COUPON TO

7368 E. 13th St., Kansas City 3, Mo. Or
968 Sixth Ave. S. E., Minneapolis 14, Minn.

We plan to build _____ homes. Send full information.

FIRM NAME _____

ADDRESS _____

CITY _____ STATE _____

life when exposed to weather. For use wherever light is desired and a weather barrier a necessity, applications include poultry houses, cold frames, and other locations where the admission of ultra violet rays can benefit humans, animals or plants. Other envisioned uses, not usually considered as jobs for glazing materials, include closing in of buildings under construction, closing of outside scaffolding, heat and dust barriers in warehouses, etc. Installation is simple, the material being cut to size with scissors and nailed to frames. Rolls 36 in. wide are furnished in 150 sq. ft. and 450 sq. ft. sizes.

Manufacturer: The Richkraft Co., 228 N. LaSalle St., Chicago, Ill.

ASPHALT SIDING with Fiberglas base offers durability, resistance to moisture and vermin.

To give added durability and resistance to moisture and

other destructive factors, a new type Ford-V-Neer panel siding utilizes Fiberglas as the structural base material. Retaining all the advantages of Ford-V-Neer asphalt sidings developed with the old type organic base, the new material offers many features due to the fact that the Fiberglas base is inorganic. Completely weatherproof, it cannot rot, decay, absorb moisture, shrink or burn. It is proof against termites and all vermin, and combines high insulating qualities with excellent sound absorption. Lightweight and extremely strong, the Fiberglas base permits use of large size panels thus reducing application time. It can be cut easily and accurately fitted around windows and gables. Furnished in panels $\frac{5}{8}$ in. thick, 24 in. x 36 in., shiplapped on four edges, the new Ford-V-Neer siding is available in either brick or stone pattern in a wide variety of colors.

Manufacturer: Ford Roofing Products Co., 111 West Washington St., Chicago, Ill.

PLYWOOD WALL COVERING for flat or curved surfaces.

Checkwood is a decorative wall covering composed of one-inch jewel-cut squares of plywood bonded to a fabric backing. Applicable to flat or curved wall surfaces, molding, furniture trim and accessories, V-cut divisions between each square make seams invisible and permit perfect fit on inside or outside corners. The unselected plywood faces may be easily painted and allow various interesting effects to be obtained in both one and two tones. Checkwood is being produced in 24 in. square sheets by The Mengel Co., Louisville, Ky.

Merchandiser: Flexwood Div., United States Plywood Corp., 55 West 44th St., New York, N. Y.

PLASTIC COATED FABRICS for upholstery, slip-covers, draperies, etc., are stain resistant.

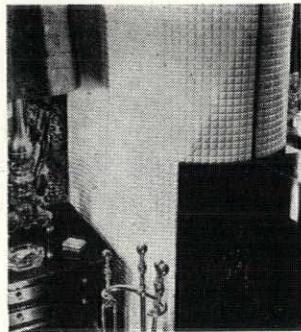
Made of finely woven textiles which are treated with an invisible plastic coating, Gaytex Fabrics combine appearance and utility. They look, drape and feel like regular fine untreated materials, yet can be wiped clean with a damp cloth. They have no tell-tale shine or odor, retain their freshness, are waterproof and stain resistant. Dirt, food, cold cream, ink, etc. may be removed with a damp cloth or, if preferred, the fabric may be washed in soap and water. The Gaytex line offers more than 20 designs done by Marion V. Dorn, in everything from delicate pastels to splashy modern prints—in fine cottons, chambray and rayon faille, with plenty of harmonizing plain colors and bold stripes. Sold by the yard for slip covers, upholstery, drapes, bedspreads, and many other uses, some of the fabrics retail for as low as \$1.50 per yd. Bright colored tablecloths made from Gaytex Fabrics are being merchandised by the company, and other household products made from the material will follow shortly.

Manufacturer: Fisher Plastics Corp., 76 Arlington St., Boston, Mass.
(Continued on page 174)

Appealing beauty and economical utility are characteristics of the "Building of Tomorrow," designed for better living.

Versatile Marlite plastic-finished wall and ceiling panels, adaptable to every type of construction, provide colorful interiors that are at once pleasing and serviceable. Marlite seals in beauty, seals out dirt and grime, is quickly installed, easy to keep clean. Plan now to make the most of Marlite, designed for the "Building of Tomorrow." Marlite Wall Products, Inc., 301 Main Street, Dover, Ohio.

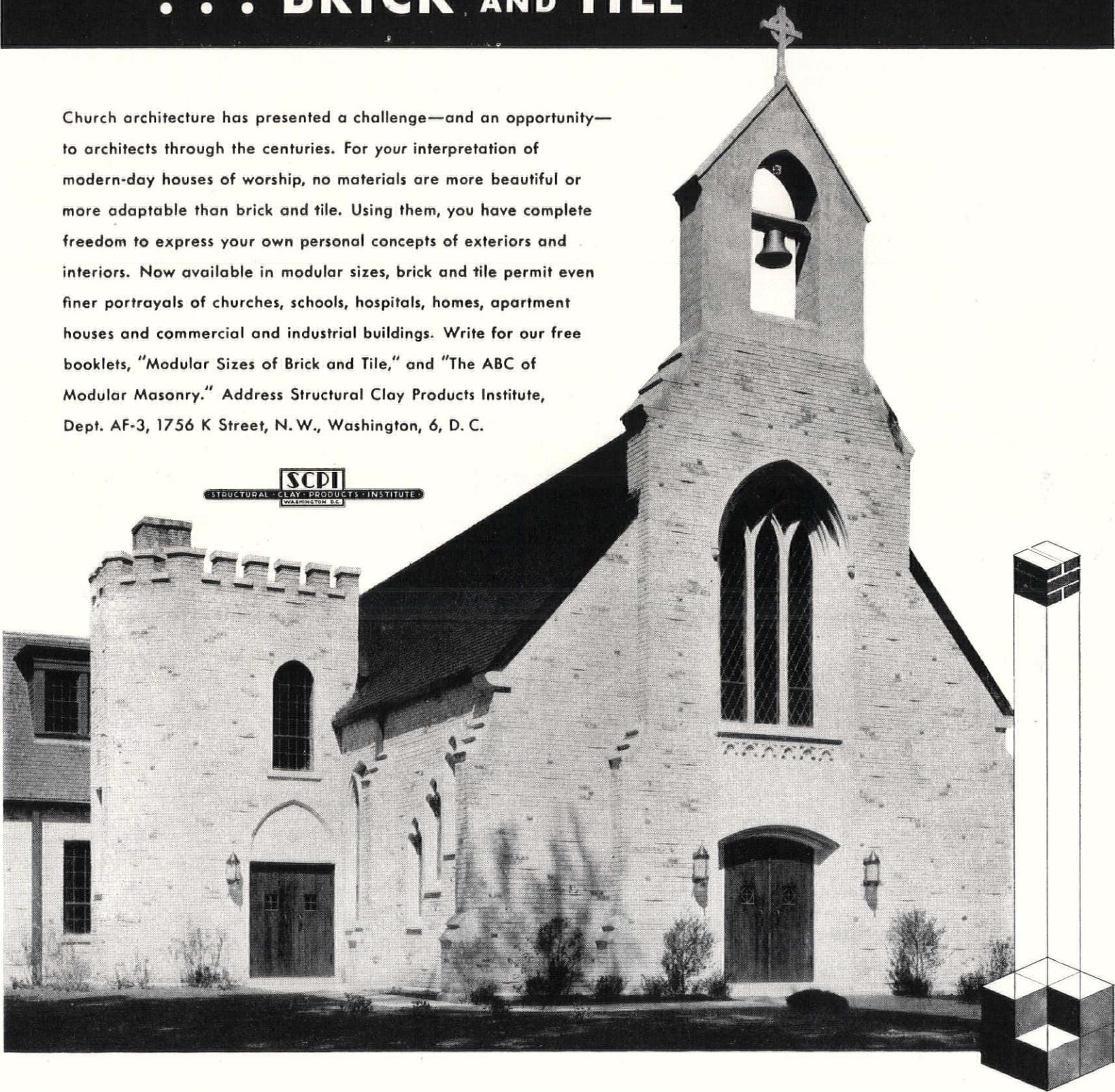
*For Creating
Beautiful Interiors*



Inspiration FOR HOUSES OF WORSHIP ... BRICK AND TILE

Church architecture has presented a challenge—and an opportunity—to architects through the centuries. For your interpretation of modern-day houses of worship, no materials are more beautiful or more adaptable than brick and tile. Using them, you have complete freedom to express your own personal concepts of exteriors and interiors. Now available in modular sizes, brick and tile permit even finer portrayals of churches, schools, hospitals, homes, apartment houses and commercial and industrial buildings. Write for our free booklets, "Modular Sizes of Brick and Tile," and "The ABC of Modular Masonry." Address Structural Clay Products Institute, Dept. AF-3, 1756 K Street, N.W., Washington, 6, D.C.

SCPI
STRUCTURAL CLAY PRODUCTS INSTITUTE
WASHINGTON D.C.



NOW IT WILL BE BUILT WITH MODULAR - DESIGNED
BRICK AND TILE



Architect: Robert A. Green

Presenting THE SHOW-ROOM HOMES of the Nation

More and more of the 400,000 homes TIME-subscribers plan to buy or build *are leaving the blueprint stage and becoming wood-and-glass-and-stone actualities.

And by and large, they are the kind of outstanding houses—like this one of Mr. Stolte's—that are admired, talked-about, copied in design and detail by millions of other U. S. families.

When your building products are bought or

Mr. Hans Stolte's TIME subscription will follow him from Forest Hills when this new home is completed for him in Briarcliff, N. Y.

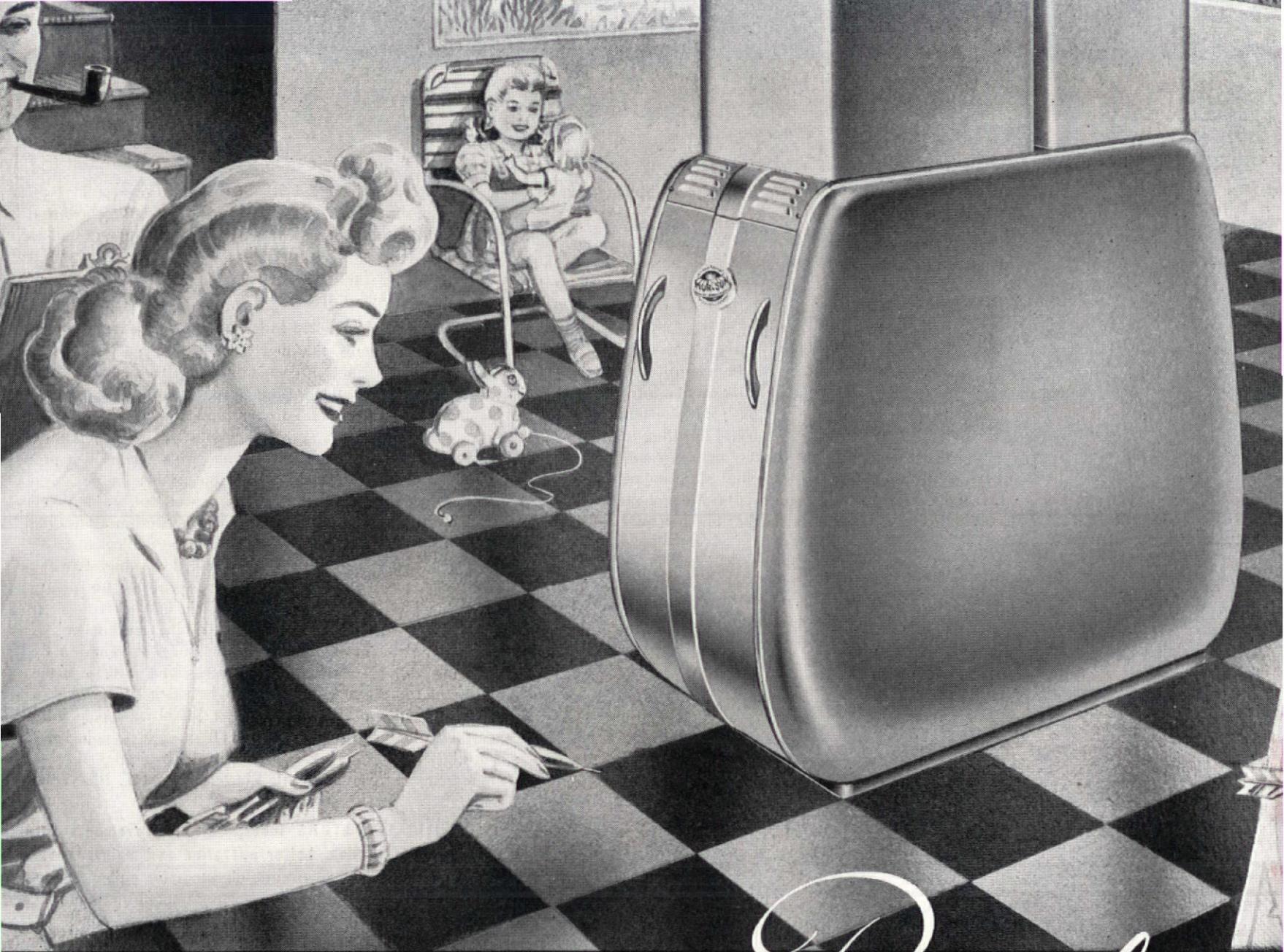
specified by TIME-readers (or by the thousands of TIME-reading architects), they go on exhibit in looked-up-to "show-room" homes the country over. For with incomes *double* the U. S. average, TIME's 1,500,000 families can afford the kind of homes that set the pace for much of the rest of home-building and home-buying America.

From a recently published survey "The Houses TIME Families Live In." If you would like to receive a copy, write David Wallace, Research Director, TIME, 9 Rockefeller Plaza, New York, N. Y.

THE GATEWAY TO THE BUILDING MARKET



ADVERTISING OFFICES • NEW YORK • CHICAGO • BOSTON • PHILADELPHIA
CLEVELAND • DETROIT • ST. LOUIS • SAN FRANCISCO • TORONTO • MONTREAL



The Furnace that brought *Beauty* to the Basement



"The Sun Never Sets
with MOR-SUN!"

Architects must be practical. Dream castles are all right on paper... but Home, Sweet Home needs a heating system . . . a healthful and automatic heating system.

And there's no law against it being beautiful too. In fact, what with rumpus rooms and basement bars, a thing of beauty in a heating system can be a joy forever!

And that means the MOR-SUN . . . the winter air-conditioning furnace that gives Beauty as well as BTU's!

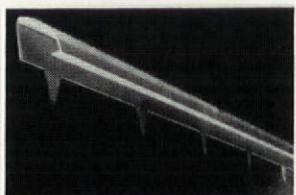
MOR-SUN . . . the pressed steel factory-assembled packaged furnace that heats, conditions, circulates, filters, humidifies and continuously renews the air . . . and brings beauty to the basement!

MORRISON STEEL PRODUCTS, Inc., BUFFALO 7, N.Y.

Morrison's nationwide dealer organization is at your Service. Write us for the address of our representative nearest you.

QUARTER ROUND STEEL RACEWAY for telephone, buzzer and inter-communication wiring.

Lopo-Trim is a steel quarter-round designed as a baseboard trim, a low potential wiring raceway, or as a quarter-round



trim above or beneath installations of the company's Plug-In Strip. For installation purposes, it has integral steel prongs projecting down its back at 3 in. intervals. These push down behind the baseboard or Plug-In Strip and exert a tension which holds the quarter-round in place. Particularly adaptable for residential, store and office application, Lopo-Trim has been approved as a telephone wire raceway and can be used for such other low potential services as

the best foundation

no-sag springs

NO-SAG SPRING COMPANY
Executive Offices
21590 Hoover Road, Detroit 13, Mich.
In Canada: 445 Nightingale Ave., London, Ontario

KAY MANUFACTURING CORP.
Main Plant & Executive Offices
Foot of Warren Street, Brooklyn 2, N.Y.
West Coast Plant: 6511 McKinley Ave., Los Angeles, Calif.

Layout treatment conceived by Alexander H. Girard

buzzer and inter-communication wiring. It comes in 6 ft. lengths finished in a neutral gray. For rounding external or internal corners, 8 in. x 8 in. two-piece matching elbows are available.

Manufacturer: National Electric Products Corp., Chamber of Commerce Bldg., Pittsburgh, Pa.

SAFETY SWITCH designed to harmonize with surroundings.

Rated at 30 amperes, this newly designed Type D Enclosed Safety Switch is compactly contained in a box only 4½ in. wide, 6⅓ in. long and 3¼ in. deep. A uniquely designed handle gives front operation and its attached triple duty



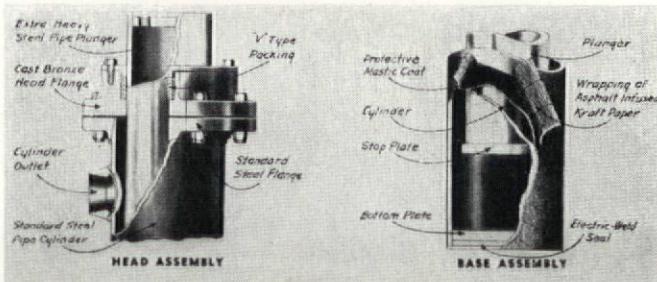
spring takes up any loose tolerance in the switch. This spring also provides a flexible connection to movable contacts, as well as a seal between handle and cover. Design allows the pivoting lever to be padlocked in off position to prevent opening of switch and cover, and provides for plenty of wiring room and easy-to-get-at terminals. Switch mechanism is

mounted on the back of the box and may be removed by loosening a single screw. Double break and positive make are assured in the new Type D switch, which is available in 2 pole, 125 v.; 3 pole solid neutral, 125/250 v.; 3 pole solid neutral with meter twist-out 125/250 v.; and 3 pole solid neutral, 125/250, 230 v., A.C.

Manufacturer: The Trumbull Electric Mfg. Co., Plainville, Conn.

HYDRAULIC ELEVATORS incorporate improvements for ease of installation, better operation and maintenance.

Montgomery improved hydraulic elevators for either freight or passenger service are being manufactured in standard sizes with travel limited to 36 ft. This standardization, according to the manufacturer, meets most existing requirements



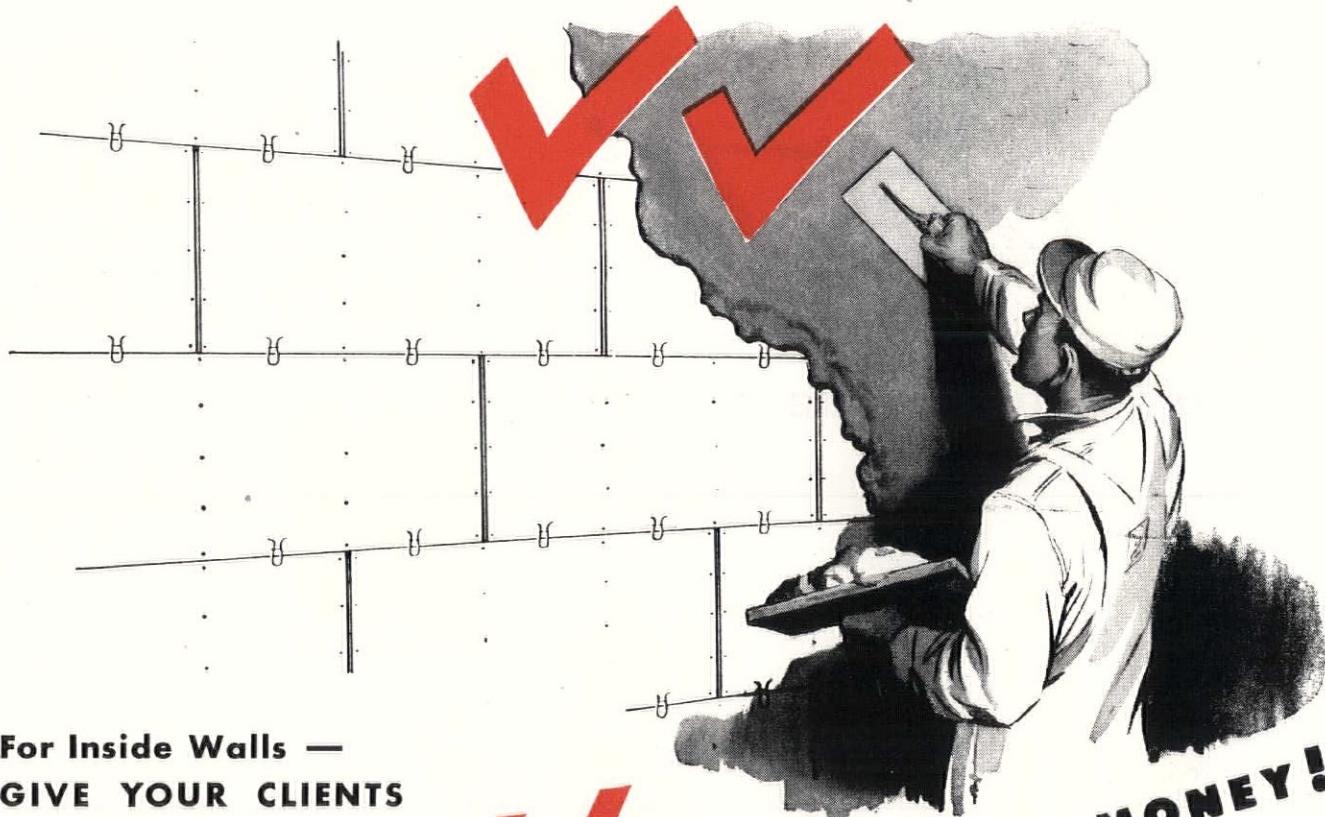
and makes possible early delivery at reduced costs. A feature of the elevator line is improved plunger construction. V-type packing used at the cylinder head conforms to the contour of the plunger, reduces friction and keeps the pit dry without a drip pan. New cylinder protection incorporates a mastic coating to guard against corrosion. A wrapping of heavy-duty asphalt infused sheets of kraft paper, crinkled and reinforced with Nylon cord, is applied over the coating. Casing of the well hole is eliminated except in the most severe conditions.

Manufacturer: Montgomery Elevator Co., Moline, Ill.

LUMINOUS SIGNS for display purposes utilize "blacklight".

Ready-made Vion luminous plastic signs for interior display offer colorful effects; convenient use; safe, low cost operation. Composed of easily interchangeable, three dimensional, luminous plastic letters; a brass frame which houses the light source and an ordinary electric cord, the signs operate on a standard 110-120 v. circuit. Illumination is provided by a regular size, low wattage

(Continued on page 178)



**For Inside Walls —
GIVE YOUR CLIENTS**

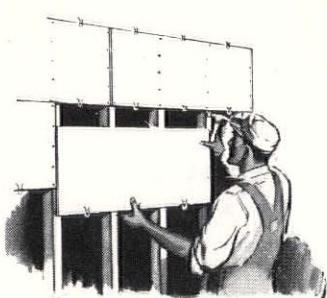
Double FOR THEIR MONEY!

Insulite Lok-Joint Lath does double-duty for inside walls:

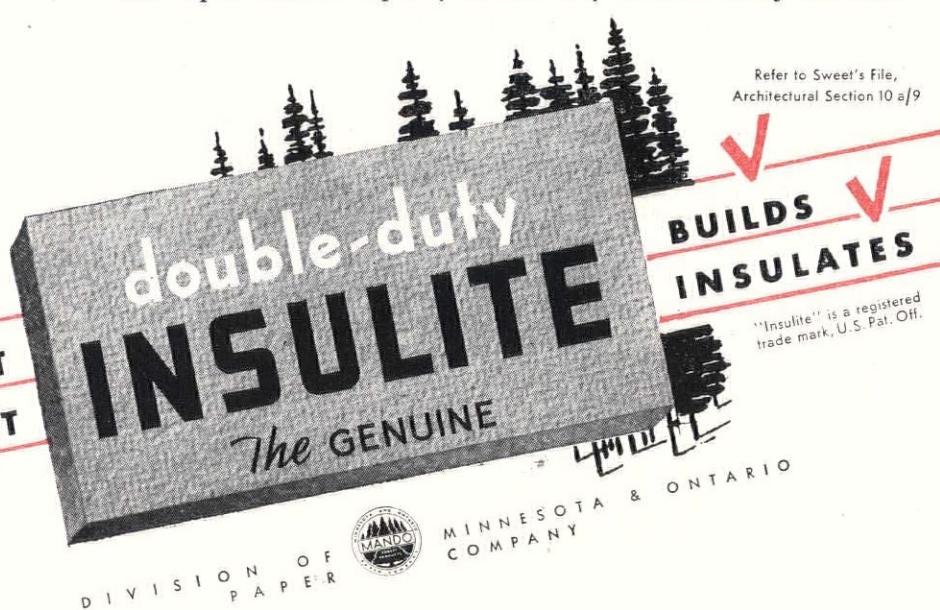
(1st) Serves as a *plaster base*, (2nd) *Insulates*.

One product — double usage — double service for the money!

Quickly and easily nailed in place. Greater bracing strength. A strong, rigid plaster base . . . PLUS insulation and vapor control. Specify double-duty Insulite Lok-Joint Lath.



**INSULATES AS IT
BUILDS AS IT**



Refer to Sweet's File,
Architectural Section 10 a/9

"Insulite" is a registered
trade mark, U.S. Pat. Off.

Facing tile for Rental Housing

fire-safe...cuts maintenance costs...assures earlier use

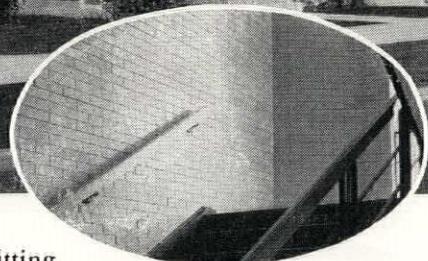
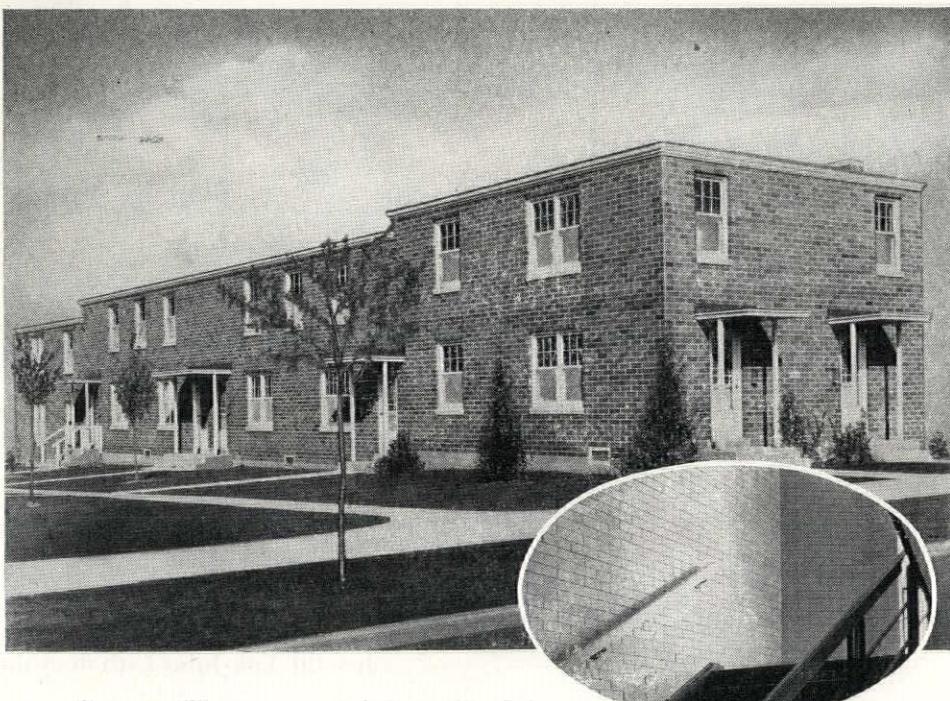
All these very important considerations for the low-cost Rental Housing you design are made possible by Structural Clay Facing Tile.

Unglazed Facing Tile lends itself very well to exteriors. For interiors, either glazed or unglazed is used. Both are *fire-safe*. Both go up fast and help assure *earlier use* of the structure.

Because Facing Tile is strong and durable and stands rough usage, it has become common practice to use it in stairwells and corridors. It does not scratch, crack, mar or decay. Structural Clay Facing Tile is colorful...easily cleaned with soap and water. These advantages help cut maintenance costs.

With a permanent finish and a wall of great strength in one material, Facing Tile means less time and money spent for construction...earlier returns on investment...less financing.

Many of these advantages are made more certain by the present production of Facing Tile in modular sizes. The



result is perfect fitting with other modular materials...greater flexibility in design...less time for drafting and site supervision...less material waste...better workmanship with reduced labor...earlier occupancy.

Any Institute Member will gladly furnish more information, or write direct to Desk AF-3 of the Institute. See Sweet's 1947 Architectural Catalog for additional data.

INSTITUTE MEMBERS

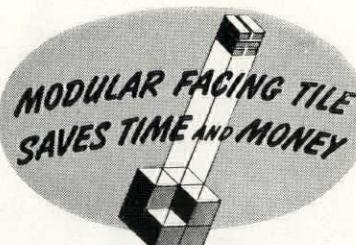
Belden Brick Company
Canton, Ohio

Continental Clay Products Co.
Kittanning, Pennsylvania

Charleston Clay Products Co.
Charleston 22, West Virginia

Hanley Company
New York 17, N. Y.

Hydraulic Press Brick Co.
Indianapolis, Indiana



Mapleton Clay Products Co.
Canton, Ohio

INSTITUTE MEMBERS

Metropolitan Paving Brick Co.
Canton, Ohio

National Fireproofing Corp.
Pittsburgh 12, Pennsylvania

Stark Brick Company
Canton, Ohio

Stone Creek Brick Company
Stone Creek, Ohio

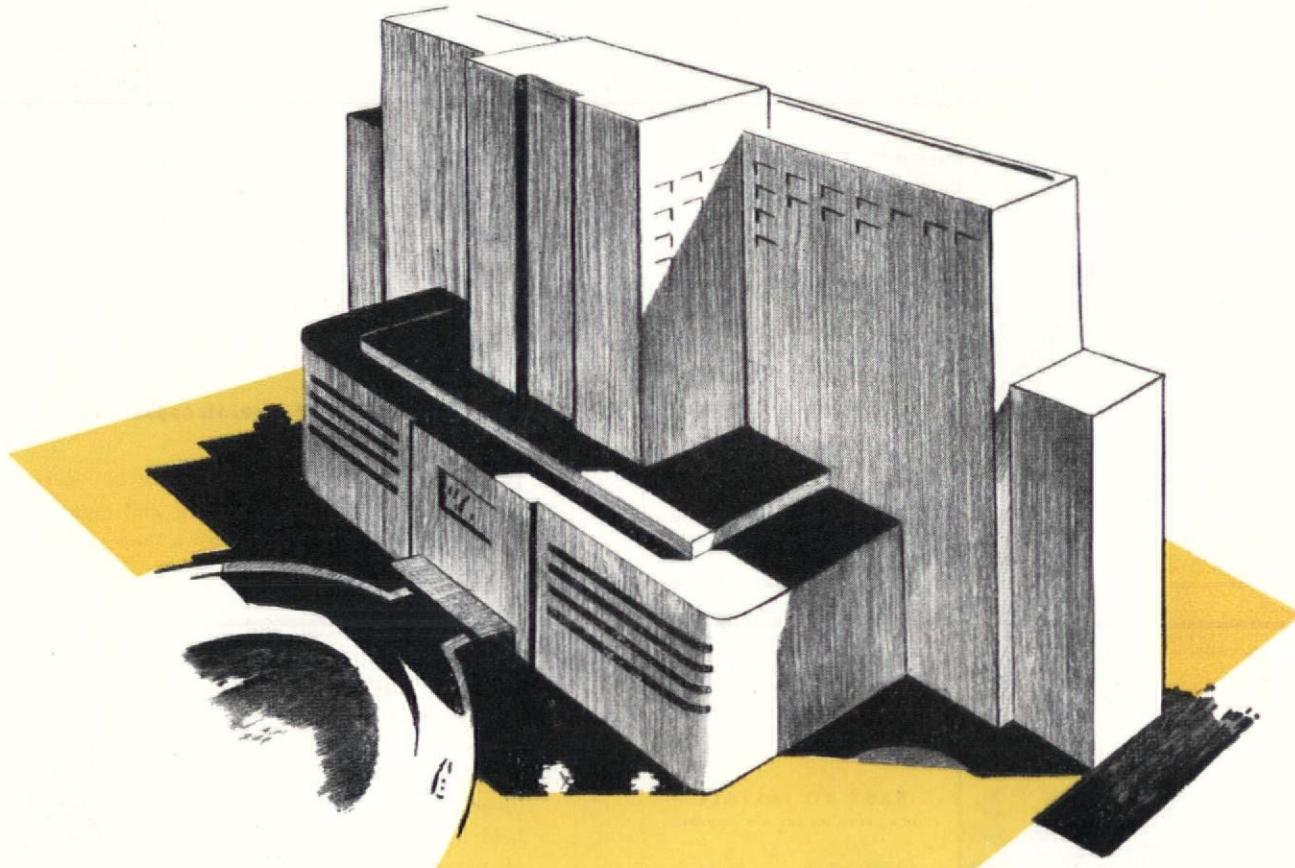
West Virginia Brick Company
Charleston, West Virginia

FACING TILE INSTITUTE

1756 K STREET, N. W.

WASHINGTON 6, D. C.

*a modern building
is truly modern...*



when pipe joints are SILBRAZ*

Silbraz joints are threadless, silver brazed joints that, when properly installed, actually make a "one-piece pipeline" on red brass or copper pipe runs. Silver brazed — not soft soldered — Silbraz joints will not creep or pull apart under any condition which the pipe itself can withstand.

Experience covering hundreds of installations where Silbraz joints were specified by leading architects and builders, proves that this type of pipe connection is permanent, leakproof, and troublefree. Its use has avoided costly maintenance and repairs.

Walseal* Valves and Fittings for Making Silbraz Joints

The Walworth Company, oldest manufacturer of valves and pipe fittings in the United States, produces a complete

line of Walseal Valves, Fittings, and Flanges for making Silbraz Joints — the modern method of joining brass or copper piping. For further information, see your nearest Walworth distributor, or write for Circular 84B.

*Patented — Reg. U. S. Patent Office

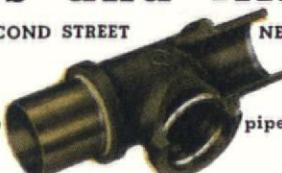
WALWORTH
valves and fittings

60 EAST FORTY-SECOND STREET

NEW YORK 17, N. Y.

Make it a "one-piece

"pipeline" with Walseal



DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD

fluorescent lamp which is processed with a specially treated filter. Absorbing visible light, the filter permits the passage of near-ultra violet radiance known as "blacklight". These invisible rays excite the fluorescent letters making them glow brightly. Installation cost is nil, operating and maintenance costs are low. The sign utilizes the Vio-Ray Lamp which has a rated life of 2,500 hrs., remains cool in operation, and burns without flicker or vibration. Lettering is made of non-inflammable, practically unbreakable plastic and is available in orange, green or red. Lettering may be changed in a matter of seconds, and two or three colors can be employed if desired. Vion signs may be used for modern display windows and interiors of food, drug and department stores; display counters; movie theaters, hotel lobbies, bars, showrooms, restaurants, etc. Cost of a standard 15 w. Vion sign, 18 in. wide, complete with nine letters or stock message, 2 $\frac{3}{4}$ in. high, is \$27.50.

NOW AVAILABLE

the original inside screens
that roll up and down
like a window shade

ROLSCREENS in a house are a "trademark" of good planning. They are a year 'round advertisement for the architect who specifies them. They help to keep a house up-to-date and protect its salability over the years. A big part of your business is selling CONVENIENCE. ROLSCREENS help you to do it like no other window accessories.

EASY TO INSTALL
ON ALL TYPES OLD AND NEW WINDOWS

Double-Hung Application Casement Application

No special mill work, no special fitting or cutting required. Installation made to either of the above windows quickly and easily . . . thanks to new type guide channels.

GOOD DELIVERIES — ROLSCREEN orders are being filled and shipped with reasonable promptness. Materials are back to prewar quality standards. On your next new or remodeling job, include ROLSCREENS. WRITE for interesting FREE literature and planning information — or see ROLSCREEN Data in Sweet's. Write 737 Main Street.

CONVENIENCE OF ROLSCREENS SELLS ON SIGHT

Once in place . . . always in place. That's RolScreens! No putting up! No taking down! No storing! No painting! No seasonal repairs! Installed and operated on the inside. Inconspicuous. They preserve the beauty of clear, sparkling glass. For all types of windows—both old and new construction.

10 YEAR GUARANTEE

This is your assurance that your clients will be satisfied and enthusiastic about ROLSCREENS over the years.

DEALERS WANTED

A number of choice territories are open for Building Specialty Dealers with facilities to sell and install ROLSCREENS. If interested, WRITE TODAY for details.

Pella ROLSCREENS

ROLSCREEN COMPANY • PELLA, IOWA

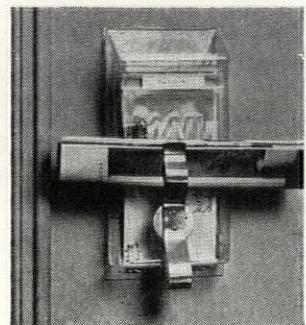
Made by Makers of Famous Pella Venetian Blinds and Casement Windows

Various size letters are available, and unit comes in 9 in., 6 w.; 36 in., 30 w.; and 48 in., 40 w.

Manufacturer: Vion Corp., 1331 First Ave., New York, N. Y.

TRANSPARENT PLASTIC MAILBOX makes contents visible.

This transparent mailbox, fabricated of durable, colorful Lucite, tells at a glance if any mail is in the box. It has a hinged bottom panel to allow quick removal of letters and a grooved panel over the letter slot for insertion of owners name card. A flexible aluminum strip attached vertically to the front of the box holds magazines and helps keep box tightly closed. The unit, measuring 12 in. long, 5 $\frac{1}{2}$ in. wide, 2 $\frac{1}{2}$ in. deep, comes in colors that harmonize with exterior paint colors—royal blue, ruby red, deep green and colorless transparent. Hinges are rust-proof chrome. Retail price is \$7.95.



Manufacturer: Celomat Corp., 521 West 23rd St., New York 11, N. Y.

PORTABLE MIXER of 3 cu. ft. capacity, produces up to two batches per minute.

Designed to handle concrete; asphaltic mixes; floor emulsions; paints; insulating, roofing and many other materials, Foote's Kinetic Mixer produces a thoroughly blended, homogeneous batch in 20 to 40 seconds. The complete operating cycle takes 5 seconds for charging from a wheel barrow, 20 to 40 seconds for mixing and 5 seconds for discharging from a hand controlled chute at the top of the machine. Employing a new mixing principle, a revolving drum and three stationary blades accomplish the blending action. Material is held against the inside face of the drum by centrifugal force. An energy converter blade peels a stream of material off the drum face to create an end-over-end mixing action. Two cross-mixing blades produce a side-to-side mixing action. Liquid, where required, is introduced into the drum by a Tri-Rotor pump at a maximum rate of approximately 8 gals. in 6 seconds. The pump is controlled by an automatic timer which closes the hand operated control valve when the desired gallonage has been introduced. The mixer, measuring 58 in. high, 81 in. long, 68 in. wide, is provided with an adjustable truck hitch for transporting. It is powered by a 12 h.p. gasoline engine or can be equipped with an electric motor.



Manufacturer: The Foote Co., Inc., Nunda, N. Y.

DRAFTING INSTRUMENT incorporates 8 scales on one side.

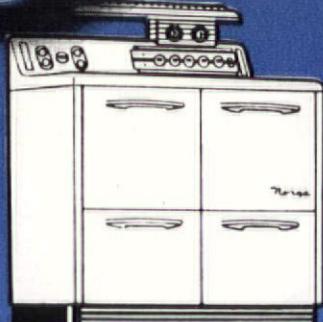
Vant Rule, a transparent, heavy plastic drafting instrument, includes 8 scales on one face. Calibrated for $\frac{1}{8}$ in., $\frac{1}{4}$ in., $\frac{3}{8}$ in., $\frac{1}{2}$ in., $\frac{3}{4}$ in., 1 in., $1\frac{1}{2}$ in., and 3 in. per ft., scales read up to 12 in. Graduations and numerals are in red to facilitate reading. Vant Rule measures 13 $\frac{1}{2}$ in. overall, has beveled edges, comes complete with case. Retail price is \$2.00.

Manufacturer: Stewart-Jackson Instrument Co., 215 West 7th St., Los Angeles, 14, Calif. (Technical Literature, page 184)

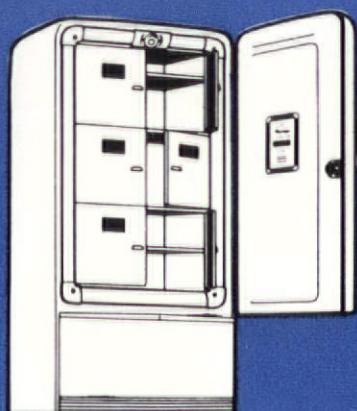
Designed to

IMPROVE LIVING CONDITIONS

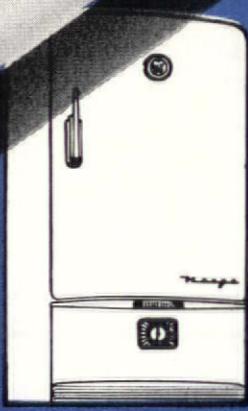
There's no question about "improved living conditions" when you suggest or select a Norge product . . . the national acceptance of these famous home appliances confirms and compliments your judgment.



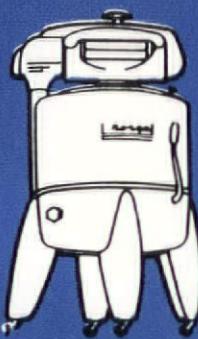
ELECTRIC RANGES



HOME AND FARM FREEZERS



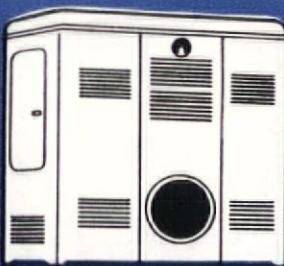
"ROLLATOR" REFRIGERATORS



"RO-TA-TOR" WASHERS



GAS RANGES



HOME HEATERS

A BORG-WARNER INDUSTRY
Norge is the trade-mark of Norge Division, Borg-Warner Corporation, Detroit 26, Michigan. In Canada: Addison Industries, Ltd., Toronto, Ontario.

SEE
NORGE
BEFORE YOU BUY

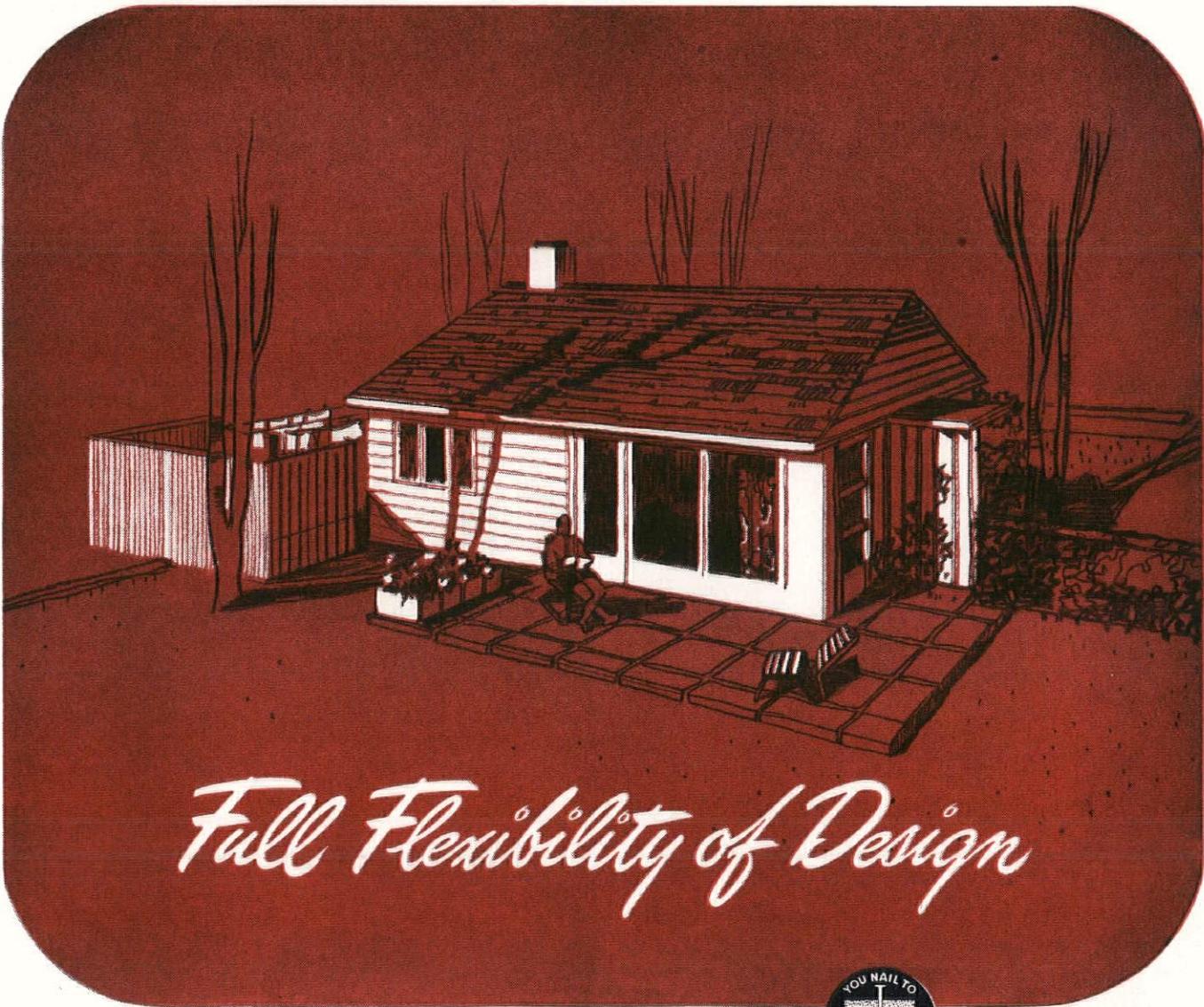


Ingenious use of compactly designed Case vitreous china plumbing fixtures turns "problem" space into a powder room—one of the most convenient rooms in a house and one valued highly by owners and buyers. With its 19" overall height, the one-piece Case T/N* water closet offers the flexibility of placement required. This is a quiet free-standing fixture with positive *non-overflow*. The Cosmette Lavatory, in overall size as small as 20" x 13½", is a perfect companion to the T/N*. Wall hung or with chrome legs, it features an extra large basin, handy shelf space and concealed front overflow. Case plumbing fixtures are distributed nationally—see your Classified Telephone Directory or write to W. A. Case & Son Mfg. Co., Buffalo 3, N. Y. Founded 1853.

*PATENTED

Case

Vitreous China Plumbing Fixtures



Full Flexibility of Design

Stran-Steel framing is a building product of Great Lakes Steel Corporation



Stran-Steel is versatile. It gives full scope to architectural planning, asks no compromise of beauty, utility or individuality of design. Its great flexibility is mainly the result of three factors:

The Nailing Groove. This patented feature, found exclusively in Stran-Steel members, permits collateral materials to be nailed directly to the frame. Nails are bent and clenched in a "grip of steel," held 40% more firmly than in wood.

Assembly Methods. Practically any type of joint or connection can be accomplished, simply and efficiently, with Stran-Steel. Members are joined directly by self-threading screws or with the aid of specially designed Stran-Steel fittings. On large construction projects, erection can be further speeded by welding.

Pre-Cut Members. Stran-Steel members are cut to architect's exact specifications, for fast erection at the building site. Designing is simplified because the Stran-Steel system is simplified, utilizing only a few basic members.

Stran-Steel is especially economical for multiple dwelling units . . . highly practical for all light-load buildings. Fire-resistant, rigid and durable, it protects the building investment. For further information, see Sweet's File, Architectural, Sweet's File for Builders, or the January issue of Building Supply News.

BUILD WITH



GREAT LAKES STEEL CORPORATION

Stran-Steel Division • Dept. 35 • Penobscot Building • Detroit 26, Michigan

UNIT OF NATIONAL STEEL CORPORATION

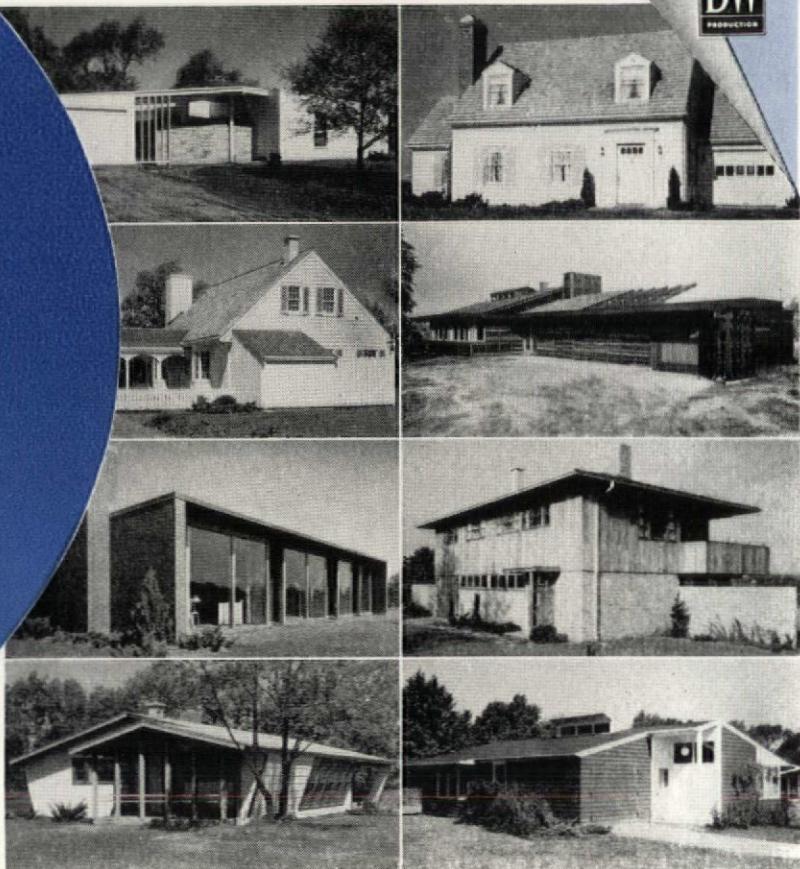
PRODUCT OF
BORG-WARNER



The homes pictured here were designed by the eight well-known architects at lower left, and built on the Ingersoll site at Kalamazoo. Every home contains an Ingersoll Utility Unit.



Kitchen, Bath, Heating Plant plus all plumbing and electrical lines are included in the Standard Model Utility Unit. Equipped with all fixtures and appliances.



Conceived BY ARCHITECTS...

Designed BY ARCHITECTS...

Job-tested BY ARCHITECTS!

The Ingersoll Utility Unit was conceived by a well-known architect; it was produced in collaboration with architects; it was thoroughly tested in homes specially planned by the architects shown below. Though these homes differ widely in design, and have been "lived in" for more than a year, the units installed have proved to be practical and efficient.

The architects who designed these homes were particularly impressed with the extra cubage this unit

afforded them. All plumbing, electrical lines, heating and other utilities were covered in one specification. And the compactness and simplicity of the Ingersoll Utility Unit enabled them to give these homes (shown above) more living space for less money. You'll want to incorporate the Ingersoll Utility Unit in your plans for small and medium-sized homes or multiple-unit dwelling. An attractive brochure, giving specifications and details, is available. Mail the coupon today.

INGERSOLL STEEL DIVISION
Borg-Warner Corp., Chicago

Ingersoll
UTILITY UNIT
TRADE MARK

4.

1. HUGH STUBBINS, Jr.
Belmont, Mass.
2. ROYAL BARRY WILLS
Boston, Mass.
3. GEORGE FRED KECK
Chicago, Ill.
4. ALDEN B. DOW
Midland, Mich.
5. FLETCHER LANKTON
Peoria, Ill.
6. HARWELL HAMILTON
HARRIS
Los Angeles, Cal.
7. EDWARD D. STONE
Great Neck, L. I.
8. L. MORGAN YOST
Kenilworth, Ill.

5.

6.

7.

8.

INGERSOLL STEEL DIVISION
Borg-Warner Corp., Dept. F3
310 S. Michigan Ave., Chicago 4, Ill.
Please send me the illustrated brochure about the
Ingersoll Utility Unit.

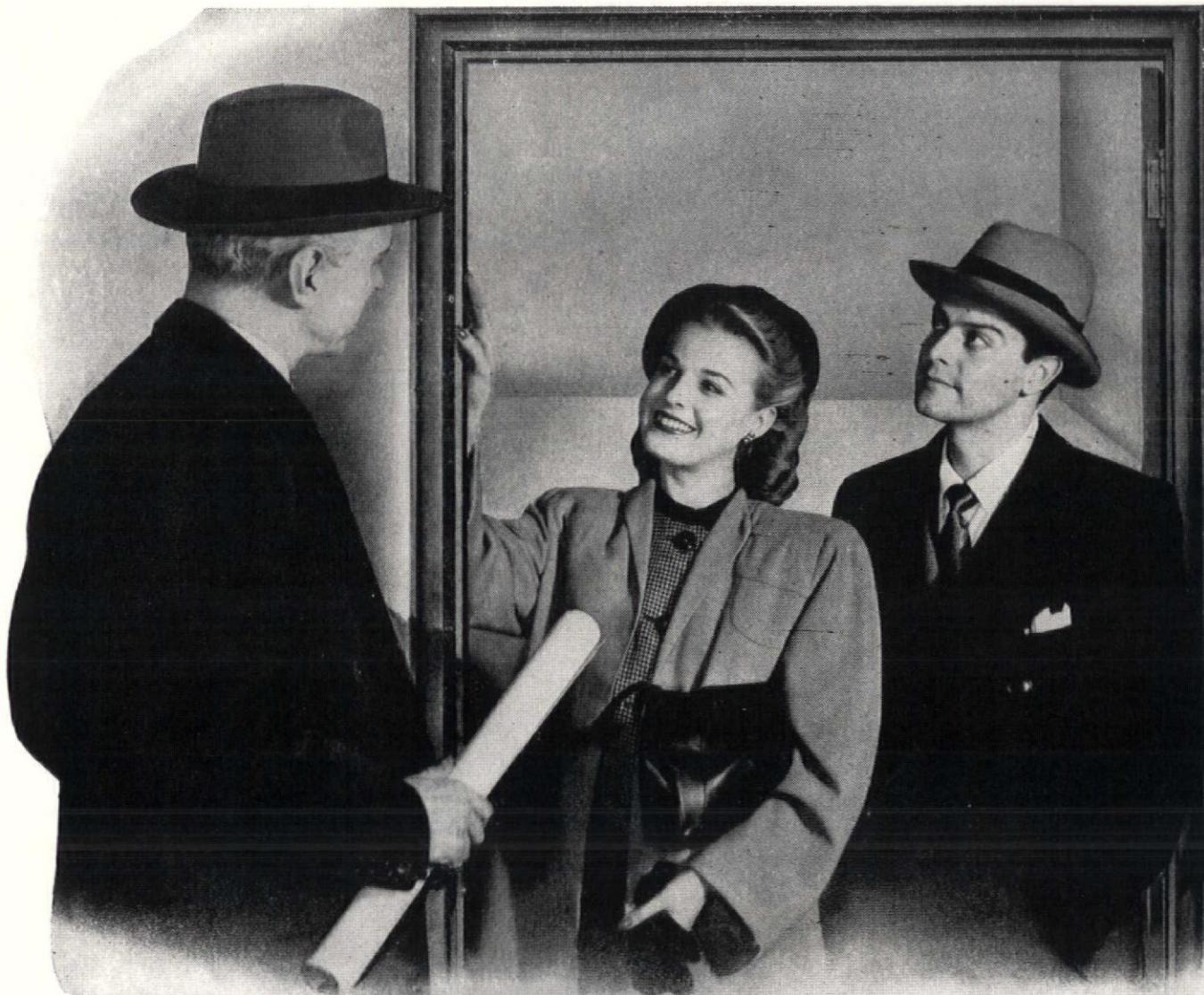
Name _____

Firm _____

Address _____

City _____

State _____



Future Home Buyers...

Will Expect STEEL DOOR FRAMES

The average home buyer has been educated to look for important basic improvements in home construction. The benefits of steel door frames to the home owner are obvious . . . Permanency, Beauty and the Wear Resistant qualities of steel.

Equally important are the many advantages to the builder. One piece,

all welded construction means that Aetna Steel Door Frames can be installed in a fraction of the time that it takes to erect multiple unit frames . . . and at a lower cost.

Hinges come welded to the AETNA FRAME, bronze strike plate is furnished and frames are prime coated at the factory.



Send for this Aetna Steel Door Frame Booklet



AETNA STEEL PRODUCTS CORPORATION

Manufacturers of Quality Hollow Metal Doors, Trim and Elevator Enclosures

EXECUTIVE OFFICES: 61 Broadway, New York 6, N.Y.

TECHNICAL LITERATURE

ALUMINUM ALLOYS and MILL PRODUCTS. Reynolds Aluminum Alloys and Mill Products Data Book. Reynolds Metals Co., 2500 S. Third St., Louisville, Ky. 248 pp., 6 in. by 9 in. Price \$2.00.

This book, featuring 106 tables of technical data, describes the many different aluminum alloys and aluminum mill products made by Reynolds. Briefly describing the history of aluminum, it then treats alloy tempers and physical properties; presents detailed data on chemical, physical and mechanical properties of high purity aluminum; and includes nominal chemical compositions, typical mechanical properties, coefficients of expansion, thermal and electrical conductivity, annealing and heat-treating cycles for wrought, sandcasting, permanent-mold casting, and die casting alloys. Subsequent chapters take up the various mill products: sheet and plate; extruded shapes; roll formed shapes; tubing and pipe; wire, rod and bar; forging stock; ingot metal and

press forgings. Such subjects as yield and ultimate strength, hardness, range of sizes, tolerances, ordering data, etc., are covered. Wire bound to lay flat, the book incorporates a detailed table of contents and a thorough cross index.

BUILDING PRODUCTS. Building Products Directory. The Producers Council Inc., 815 15th St., N.W., Washington, D.C. 28 pp., 8½ in. by 11 in.

A guide to the products and services offered by members of the Producers' Council, this directory lists the manufacturers of more than 400 types of building materials and equipment. Divided into three sections, part one is a classified listing of products and member companies who supply them. Part two gives locations of members' sales representatives equipped to furnish technical and product information. Part three presents Producers' Council members and the products they manufacture.

ROOFING AND SIDING. Plasticlad Electrostatically Coated Metal. Reliance Steel Products Co., McKeesport, Pa. 8 pp., 8½ in. x 11 in.

Illustrated folder describes Plasticlad, an alloy-steel, electrostatically coated roofing and siding material. Text discusses its advantages: extraordinary toughness of the copolymer resin coat, immunity to atmospheric corrosion or chemical attack, very high fire resistance and attractive colors incorporated in the plastic coat. Various types of roofing and siding, fasteners, flashings, ventilators, etc., are illustrated and described.

PORCELAIN ENAMEL. Porcelain Enamel on Steel in Architecture. Carnegie Illinois Steel Corp., Carnegie Bldg., Pittsburgh, Pa. 32 pp., 8½ in. x 11 in.

This booklet, prepared for the guidance of architects, suggests some of the many uses for porcelain enamel on steel in architecture. Liberally illustrated with sketches and details of many possible uses, it calls attention to the advantages of the material for both exterior and interior applications. Text discusses color, texture, durability, abrasion resistance, versatility, thermal shock resistance, light reflectance, incombustibility, acid resistance and strength. In addition it includes a running story of the manufacture of porcelain enamel and U.S.S. Vitrenamel Steel.

PAINT. WATERPROOFING. Horn Construction Data and Hand Book. A. C. Horn Co., 43-36 Tenth St., Long Island City, N.Y. 96 pp., 4 in. by 9 in.

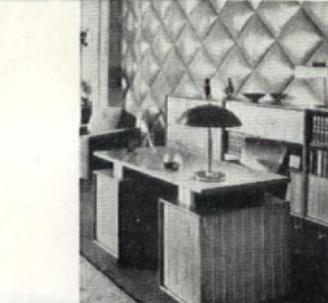
New edition of this reference book provides compact technical data on all Horn products—flooring materials, exterior and interior coatings, roofing materials, waterproofings, damp-proofings and admixtures. Divided into two sections, part one gives descriptions of uses, coverage, color data and specifications. Useful tables, conversion factors, estimating tables, weights and strengths of building materials are included in part two.

PHOTOMURALS. Make Blank Walls Live. Kaufmann & Fabry Co., 425 S. Wabash Ave., Chicago, Ill. 14 pp., 10 13/16 in. x 8 ½ in.

Emphasizing the fact that photomurals can be used in the home, office, restaurant, store or anywhere where blank walls need life, warmth and atmosphere, this booklet describes various types of photomurals and a wide variety of their applications. Their limitless scope, flexible application and other possibilities are discussed and fully illustrated.

(Continued on page 190)

For all
upholstered furniture
requirements — chairs,
office pieces, auditorium
Seats and padded wall sections —
more and more architects and designers



always specify **PANTASOTE**

Here's why: Supplied in diversity
of colors, textures, and grains,

Pantasote Plastics add exciting
new beauty to every interior.

Even more important, they cut
"housekeeping" and maintenance
costs to almost zero. No matter

how dirty they get, a wipe of a
damp cloth whisks them clean, bright,
and new. They are highly resistant to fire and
cigarette burns—and impervious to alcohol and acids.

Write today for descriptive folders—yours without obligation.

THE PANTASOTE CORP. OF N. J.

444 MADISON AVE., NEW YORK 22, N.Y.

Pantasote's Pantex: Unsupported
plastic film. Extra soft
and flexible—minimizes
tailoring problems.

Pantasote's Wynsote: Plastic
coated fabric. In beautiful
grains and smart new colors.



● Broad expanses of subdued wall color harmonize strong accent colors on ceiling and furniture of cocktail lounge.

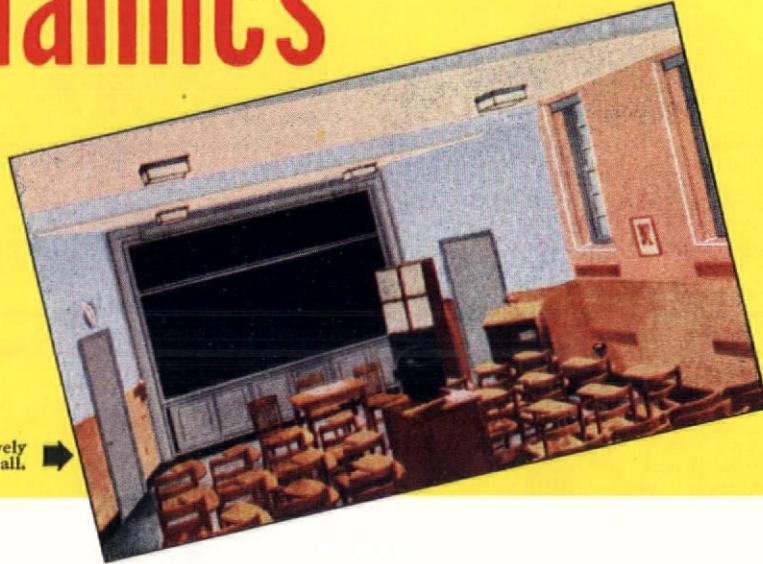


● Buff walls of this private office contrast with cool colors of ceiling, drapes and rugs. Drop ceiling lowers its height.

Color Dynamics

Pittsburgh's exclusive painting method assures color combinations that promote health, comfort and safety—stimulate energy—increase efficiency—at the same time that they please the eye!

● Eye-rest focal walls of Blue-Green contrast effectively with warm side walls and wainscot of this lecture hall. ➔



**Here's How You Can Put the ENERGY IN COLOR to Work
... with Scientific Accuracy!**

Paint RIGHT with COLOR DYNAMICS Paint BEST with PITTSBURGH PAINTS!

● The benefits of COLOR DYNAMICS are made more enduring when you use Pittsburgh's long-lasting quality paints. There's a PITTSBURGH PAINT for every need!

WALLHIDE—in three types. PBX—extra durable finish which can be washed repeatedly without streaking or spotting. SEMI-GLOSS—for higher sheen. FLAT—velvet-like finish for offices, libraries and dining rooms. These paints are enriched with "Vitolized Oils" for live-paint protection.

WATERSPAR ENAMEL—for woodwork, furniture, metal trim—gives a china-like gloss which resists marring and abrasion.

FLORHIDE—for floor surfaces. Quick-drying, tough finish which can be scrubbed frequently with soap solutions.

EXPERIENCE has proved that people who work or live in surroundings painted according to Pittsburgh's science of COLOR DYNAMICS benefit in many ways.

Color is a source of power. It can stimulate or relax. It can help people to feel cheerful—or set their nerves "on edge" and cause them to be uncomfortable and depressed.

Properly applied, COLOR DYNAMICS can make your institution inspire trust and confidence by its appearance. It can lessen eye fatigue. It can increase efficiency, improve mo-

rale, promote cheerfulness and well-being. With COLOR DYNAMICS you can also make rooms seem more inviting and spacious, make them appear longer or wider, higher or lower.

You can now apply these principles of color energy with scientific accuracy. What you can do with COLOR DYNAMICS—and why—is told in our revised, profusely illustrated book, "Color Dynamics for Office Buildings, Hotels and Restaurants." Write for your FREE copy. Pittsburgh Plate Glass Co., Paint Div., AF-3, Pittsburgh 22, Pennsylvania.



PITTSBURGH PAINTS

PITTSBURGH PLATE GLASS COMPANY, PITTSBURGH, PA.
PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS

FLEXSTONE BUILT-UP ROOFS

"Made of asbestos,
each ply is a flexible
covering of stone"



RESISTS FIRE: Burning embers or brands, blown from neighboring fires, burn out harmlessly on Flexstone Roofs. In spite of the intense heat and flame, the asbestos felts prevent the roof deck from catching fire. Here's further assurance that you get greater fire-safety with Johns-Manville Flexstone Built-Up Roofs.

BUILT-UP with asbestos felts which are fireproof, rotproof, and weatherproof, Johns-Manville Flexstone Roofs offer the most enduring and reliable protection for your buildings.

Flexstone Roofs are *smooth-surfaced*, permitting quick and thorough roof drainage. They won't dry out from the sun . . . require no periodic coating. Upkeep expense is minimized, as actual roof can be seen—any damage is easily found and repaired.

All Johns-Manville Flexstone Roofs are engineered to the particular requirements of your building—whether it's new construction or a re-roofing project. To insure skilled application, they are applied by Johns-Manville Approved Roofers.

Three grades are available: *Flexstone Super "A"*, *Flexstone Standard*, and *Flexstone Service*—each the finest that can be specified for its purpose. Write for our brochure BU-51A. Johns-Manville, Box 290, New York 16, N. Y.

Because of unprecedeted demand, there may be times when we cannot make immediate delivery of materials. Please anticipate your needs.

Johns-Manville

FLEXSTONE BUILT-UP ROOFS



Specify the water heater
that provides
"Packaged-in-Glass"
Hot Water

No Rusting! No Corroding! Under any water condition, the all-modern *Permaglas* Water Heater CANNOT rust or corrode! It's ever ready with all the hot water needed, for even the newest homes, pure and clean as the source itself.

Permaglas

TRADE MARK REG. U. S. PAT. OFF.

SMITHway WATER HEATER

The *Permaglas* Water Heater has the tank of glass-fused-to-steel—mirror-smooth and sparkling blue. Rust that ruins clean laundry . . . and corrosion dirt that stains both water and porcelain . . . are banished.

NOW YOU CAN SPECIFY CLEAN HOT WATER

Only A. O. Smith makes this truly modern water heater, engineered to match in service and convenience the finest new homes. Its complete protection against rust and corrosion is only one feature of many—including a sleek, beautiful design that has set the new postwar style.

Let us send you all the facts on gas and electric models. Ask the A. O. Smith office nearest you for "The Inside Story of *Permaglas*."

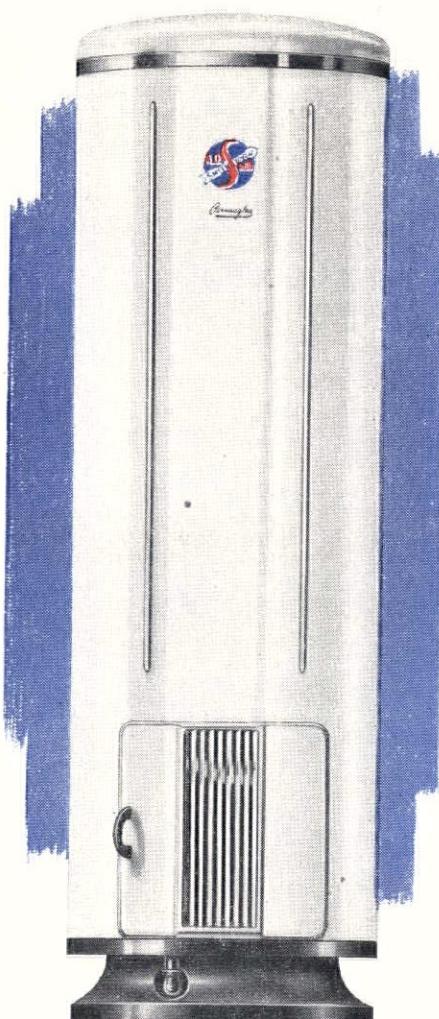
HOT WATER "Packaged-in-Glass"

Guardian of the Nation's Health



A. O. SMITH
Corporation

New York 17 • Atlanta 3 • Chicago 4 • Houston 2 • Seattle 1
Los Angeles 14 • International Division: Milwaukee 1
Licensee in Canada: John Inglis Co., Limited



FOR YOU

The ad on your right is appearing in The American Home. Other full-color Kentile ads are continually running in The Saturday Evening Post and House Beautiful. These powerful ads will sell Kentile for both home and commercial use--to millions of American home owners and business men. But why should you read these ads? You know this story. You have long preferred Kentile because you knew Kentile's quality. But now we want you to see how we are educating the people you must please--your clients, prospects or buyers! Now, because of this tremendous advertising campaign, they will understand--when you tell them: "Kentile is the quality leader."



Kentile colors: Languedoc (C-257) White (D-132) strips.

Floor magic for a dramatic entrance

Imagine a floor so glamorous that modern architects choose it for their most exciting rooms--yet so practical that smart builders recommend it for kitchens! That's Kentile--today's floor miracle: set tile by tile (you combine colors or create patterns as you wish) --resilient: extra comfortable and quiet underfoot--durable: proved in supermarkets and giant buildings where millions of scuffing feet never mar it--colors that can't fade or rub off because they go clear through--and the easiest floor to keep; it laughs off any kind of scum or dirt, is cleaned by simple mopping or sparkled by swift waxing. Yes, that's Kentile . . . and it costs less--an economy floor of quality! Made by David E. Kennedy, Inc., fine flooring manufacturers ever since 1899.

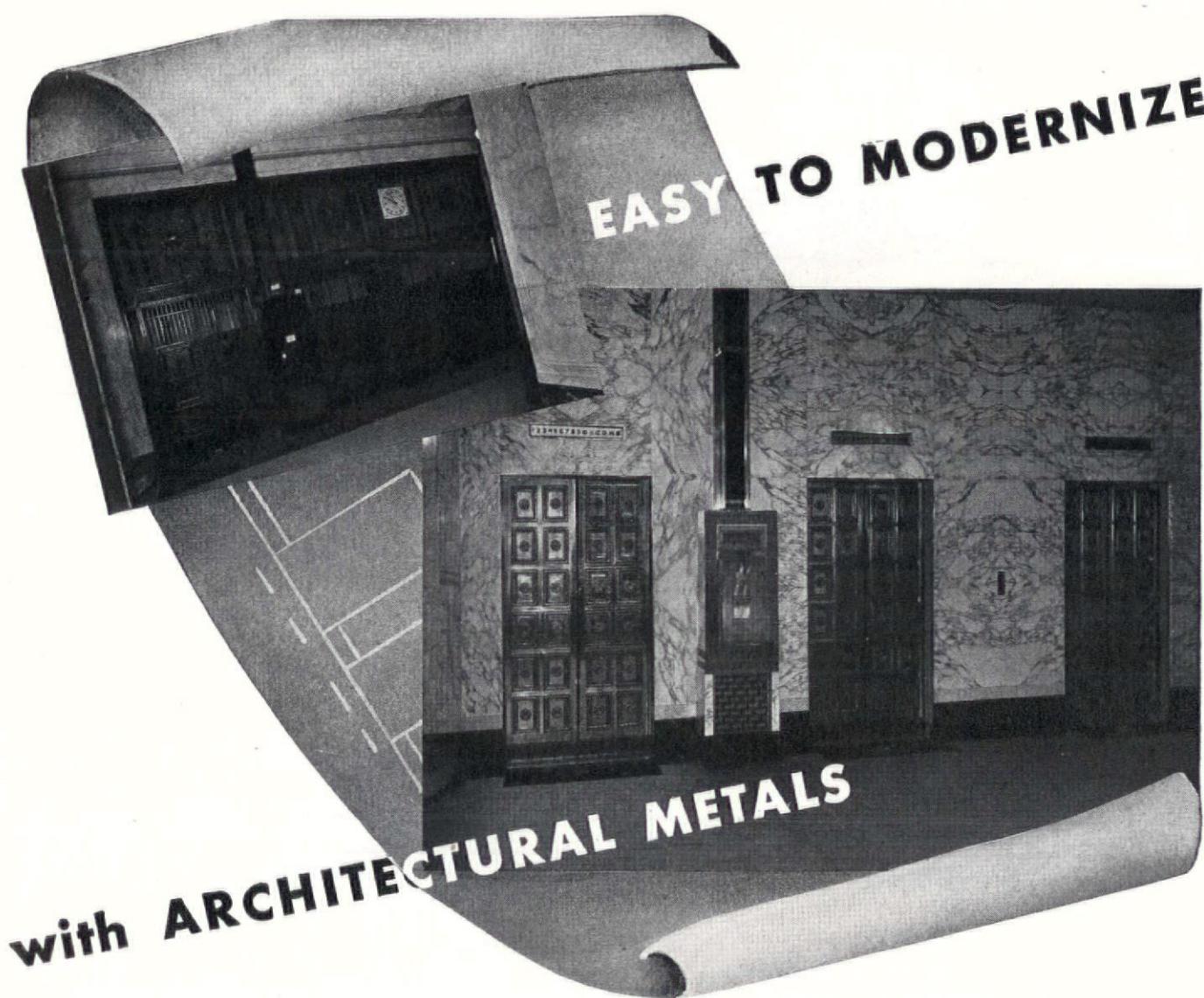
KENTILE
Asphalt Tile
Trade Mark Reg.



or double-duty service

Below: Heather Mixture (B-255) Cream (B-140) strips. Comblanchien (C-258) under counter.





Few materials lend themselves as readily to modernization plans as Architectural Metals. They offer you almost unlimited combinations of form and function. For elevator doors, entrances, stairs, railings, store fronts and many other units, they can be used to good advantage.

You can serve almost any desired purpose with ferrous and non-ferrous architectural metals in a variety of colors, qualities and strength. You can achieve both distinctive, decorative design and strong, safe construction. Under your direction, architectural metals can be used to create results that are both beautiful and practical.

You will find the manufacturers and fabricators of architectural metals anxious to help you at all times. Consult them whenever you have a problem of design or construction.

Architects interested in receiving a copy of our new Handbook on Stairs and Railings should write on their professional letterhead. For a Directory of the names and addresses of leading Fabricators, address Dept. AF-3



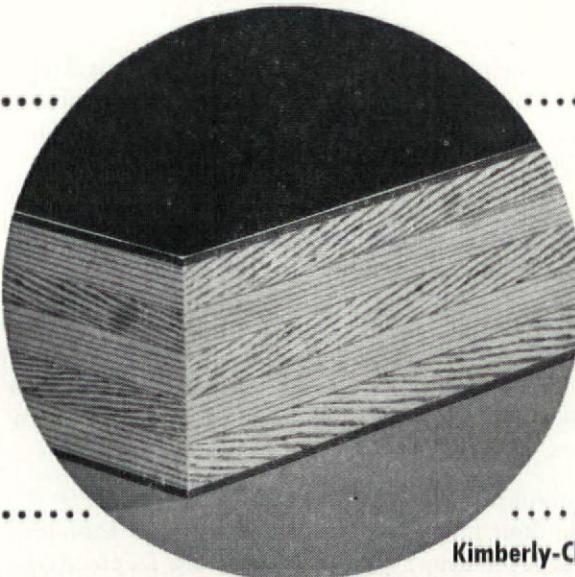
**NATIONAL ASSOCIATION OF
ORNAMENTAL METAL MANUFACTURERS**

209 CEDAR AVENUE, TAKOMA PARK, WASHINGTON 12, D. C.

The new plastic armor for plywood... **Kimpreg***



STRONG, STAINPROOF. Kimpreg is a thermo-setting phenolic resin sheet to be fused with plywood in manufacturing. Abrasion-resistant, scuff-proof, mar-resistant, impervious to alcohol, it's a material with amazing possibilities.



ATTRACTIVE, PERMANENT. Kimpreg fused with Plywood gives America this remarkable material. It's smooth and flint-like—weather-proof, long-wearing, and washable. There is greater strength, greater water resistance in plywood surfaced with Kimpreg!



ADAPTABLE, ECONOMICAL. Kimpreg + Plywood is ideal for bars, kitchen counters, concrete forms—or wherever a durable surface is required. Combines the multiple advantages of plastic with the basic economy and workability of plywood. For complete information, mail the coupon today.

Kimberly-Clark Corp., Neenah, Wis.

Please send me the free Kimpreg book and the names of manufacturers making plywood surfaced with Kimpreg.

AF-347

Name _____

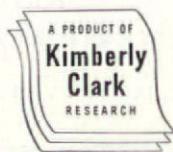
Firm _____

Type of Business _____

Address _____

City, Zone, State _____

Kimpreg
REG. U.S. PAT. OFF.
PLASTIC SURFACING



*TRADEMARK

Protection for

PUBLIC
PLAYGROUNDS

Consider the moderate installation cost, the amazingly low maintenance costs, the protection it affords against theft, vandalism and other hazards—and you'll agree there's "dollar and sense" wisdom in protecting property with a well erected chain link fence.

Exceedingly difficult to climb because of its diagonal mesh, a chain link fence provides greatest protection when combined with a top finish of four pronged barbed wire. For schools, playgrounds, homes and gardens, a smooth knuckled selvage (with ends bent back along the weave) insures an excellent enclosure and barrier.

The fence and fabric of Wickwire, Colorado and Calwico Brands of Chain Link Fence are made of carefully selected steel wire, heavily galvanized after weaving. Fittings are of malleable iron and pressed steel, heavily galvanized, or aluminum.

PRIVATE
PROPERTY

PARKING
PLACES

POWER
PLANTS

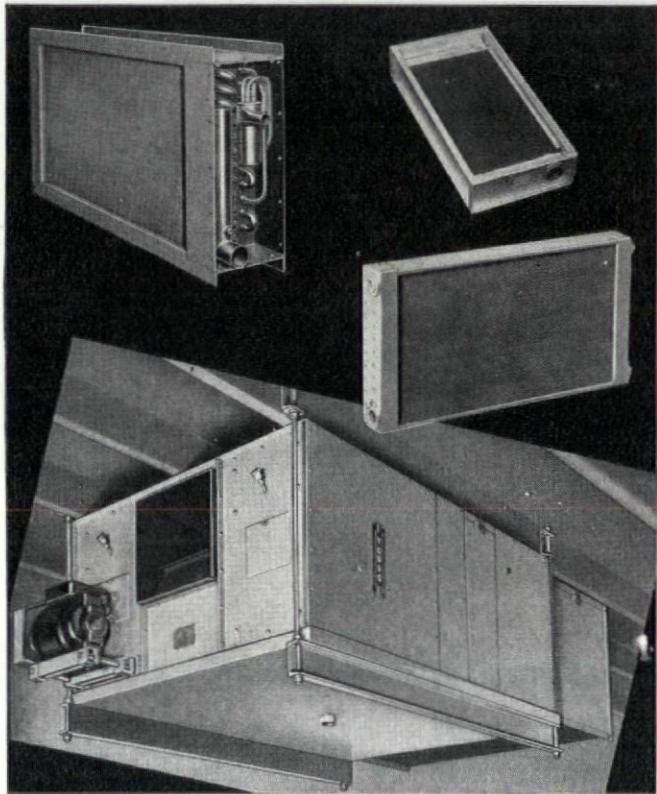
FREE ESTIMATES—We will be happy to measure your property, work out details to secure proper protection, and submit estimates for fence material ready for erection or covering complete installation by our trained crews. For free catalog and further particulars, write to our nearest branch office.

CHAIN LINK FENCE
WICKWIRE • COLORADO • CALWICO
DIVISIONS OF THE COLORADO FUEL AND IRON CORPORATION
Wickwire Spencer Steel The Colorado Fuel and Iron Corporation The California Wire Cloth Corporation
361 Delaware Ave., Buffalo 2, N.Y. Continental Oil Bldg., Denver 1, Colo. 1001 22nd Ave., Oakland 6, Cal.



TECHNICAL LITERATURE

STANDARDIZE ON YOUNG HEATING-COOLING COILS and AIR CONDITIONING UNITS



Heat transfer equipment for heating, cooling and air conditioning systems are "catalog" items with Young. Through a continuous program of engineering and modern manufacturing techniques Young offers advanced designs—high efficiency operation.

Young coils are available in six types: for hot water and steam heating; for water or refrigerant cooling. "Stremaire" Air Conditioning Units are simple to install and take little space. They complete the functions of heating, cooling, cleaning and humidifying, or dehumidifying. It is possible to specify a "Stremaire" Unit to perform one or any combination of these services.

Write today for complete information on Young Heating and Cooling Equipment.

YOUNG HEAT TRANSFER PRODUCTS

OIL COOLERS • GAS, GASOLINE, DIESEL ENGINE COOLING RADIATORS • HEAT EXCHANGERS
INTERCOOLERS • EVAPORATIVE COOLERS
GAS COOLERS • UNIT HEATERS
CONDITIONING UNITS • EVAPORATORS
AND A COMPLETE LINE OF AIRCRAFT HEAT TRANSFER EQUIPMENT

YOUNG RADIATOR CO., Dept. 157-C RACINE, WIS., U.S.A.

Sales and Engineering Offices in All Principal Cities

REQUESTS FOR LITERATURE

ELLIS F. ALBAUGH & ASSOCIATES, architects-engineers, Watson Building, Brownsville, Texas.

JAMES ATCHESON, architect, 204 Sanford Building, 1009½ Texas Ave., Lubbock, Texas.

ANTHONY GATTOZZI, city architect, 517 City Hall, Cleveland, Ohio.

W. EDWIN GLOSSOP, architect and consultant for industrial or commercial projects, Starks Building, Louisville 2, Ky.

KALAK PTY LTD, builders, P. O. Box 5938, Johannesburg, South Africa.

Z. LUKSIC, Catedral 1878, Santiago, Chile.

ANDRE MERLE ASSOCIATES, architectural engineers, Southern Building, Washington, D. C.

JULIUS M. MOORE, 15 Weybosset Ave., Hamden 14, Conn.

OTTCO INC., store designers and builders, 1165 Southern Blvd., New York, N. Y.

PETTIGREW, WORLEY & Co., 160 Avery St., Dallas, Texas.

POPE & BLAKE, architects, Box 1034, Delray Beach, Fla.

WILLIAM SHAUGHNESSY, 1619 Holland Ave., Utica, N. Y.

GOSTA SJOLIN, architect, 6451 Main St., Houston 5, Texas.

EDWIN SOCHALSKI, 5155 St. Lawrence St., Detroit, Mich.

EDWIN P. STARBUCK, architect, 7784 Montgomery Rd., Cincinnati, Ohio.

MANGALDASS N. VERMA LTD., constructional engineers and building contractors, Kitab Mahal, Hornby Road, Bombay, India.

DAVID VHAY, architect, Reno, Nevada.

THOS. A. WHAPLES, architect, Hotel Richmond, Richmond, Va.

GEORGE D. WICK, JR., designer, Box 458, Tryon, N. C.

(Continued on page 196)



FOR BUILDINGS

of modern design

To harmonize with the most modern designs for residential, business or public buildings, there are over a hundred different Hendrick Grilles. Many exclusive Hendrick designs, originally produced to meet an architect's specifications for some particular project, are now available as standard numbers.

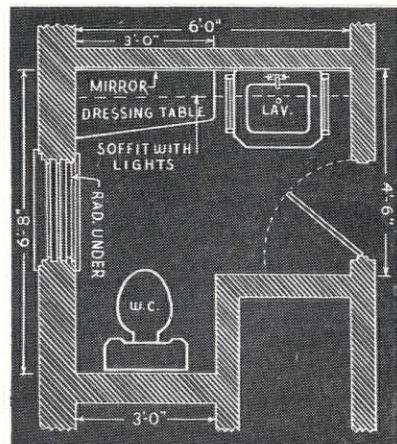
Hendrick Grilles are furnished in aluminum, bronze, copper, Monel, steel and stainless steel. Write for full information.



Perforated Metals
Perforated Metal Screens
Architectural Grilles
Mitco Open Steel Flooring,
"Shur-Site" Treads and
Armorgrids

HENDRICK
Manufacturing Company
35 DUNDAFF STREET, CARBONDALE, PA.
Sales Offices in Principal Cities

This compact arrangement of Kohler fixtures shows interesting economy of space. Dimensions of the longest walls are only 6' x 6'-8", yet there is free access to both the fixtures and the convenient, built-in dressing table.



A KOHLER washroom solves many problems

HOME owners are becoming more aware of the value of added sanitary convenience. The appeal of a Kohler washroom is especially pronounced, for it takes little space, yet it answers many needs—reducing through-the-house traffic, providing convenience for guests, and simplifying child training. Permanent value is added to homes where this practical extra convenience is installed.

There is further practical appeal in the fact that the name "Kohler" stands for first quality at reasonable cost. The high standards of construc-

tion and excellence of design embodied in Kohler fixtures and fittings assure long satisfactory use.

The fixtures in the washroom above are the Jamestown vitreous china lavatory, with Centra mixer-type fitting made of durable chromium-plated brass; and the quiet, smooth-functioning Bolton closet. Kohler quality is now a 74-year-old tradition, safeguarded by the fact that Kohler production is centered in one great plant, with unity of supervision. Write for latest information on products available.

Kohler Co., Dept. A, Kohler, Wisconsin.

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS

**"...and thank goodness for this
Frigidaire Electric Range!"**



They're your clients if you're an architect . . . your customers if you're a builder . . . your tenants if you're an apartment house owner or manager . . . your boosters if they're enthusiastic about the kitchen equipment you specified, recommended or provided—and that's a benefit to you.

You're sure of this enthusiasm, sure of the resulting benefit to you, when you select Frigidaire Electric Ranges. Even people who have never used a Frigidaire Electric Range expect good things from it; they know the Frigidaire name so well. And architects who have specified them know—

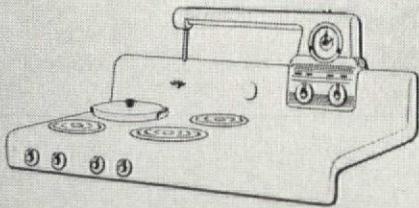
builders and apartment house owners and managers know—that Frigidaire Electric Ranges are engineered to deliver all the advantages—and more—that make people so enthusiastic about modern electric cooking.

See Your Frigidaire Dealer about this new Frigidaire "RJ" series of electric ranges. He'll give you detailed information on all models, advise when delivery can be made. Find name in Classified Telephone Directory. Or write Frigidaire, 867 Amelia St., Dayton 1, Ohio. In Canada, 594 Commercial Rd., Leaside 12, Ontario.

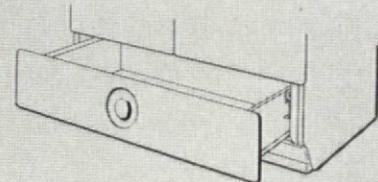
You're twice as sure with two great names

Frigidaire made only by **General Motors**

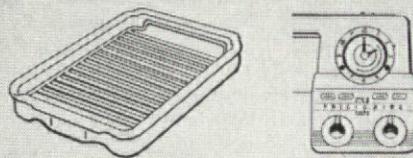
REFRIGERATORS • ELECTRIC RANGES • WATER HEATERS • HOME FREEZERS • KITCHEN CABINETS
AUTOMATIC WASHERS • COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT



New Design. Sturdy-weld construction, porcelain-finished; removable exterior panels. One-piece, stainless, porcelain-finished top with roll-front to give handsome appearance; increased oven insulation; more space between surface cooking units. Bottom edges of side panels shaped into smooth runners for easy moving.



New Storage Drawer — full-width, roller-bearing guides.



New Broiler Pan — deeper . . . removes fat drippings from heat for smoke-free broiling.

New Cook-Master Clock Control for "out-of-the-kitchen" baking, roasting. Large face.

they're new

"RJ" Series of Frigidaire Electric Ranges

And they have these
recognized Frigidaire advantages

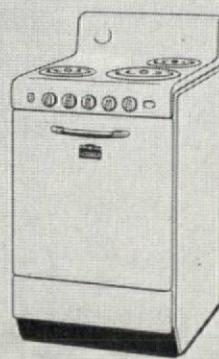
Radiantube Units — fast-heating; self-cleaning; laboratory-tested to the equivalent of 15 years' kitchen use; proved in thousands of homes.

Even-Heat Oven — one of biggest made; so fast it reaches baking temperature in 5½ minutes; heating units top and bottom; waist-high broiler; all-porcelain finish.

Thermizer Cooker (deep-well). Cooks complete meals.

Time and Temperature Signals—dependable, easy to use.

7 Models. A complete selection from 3- and 4-unit apartment-size models to big two-oven model; from simple models with basic features to de luxe models with every convenience feature.



Dimensions. All models designed to match standard sink and kitchen cabinet dimensions: 40" wide (apartment house model 21" wide), 25½" deep, 36" high.



DELANY FLUSH VALVE equipped with NO. 50 VACUUM BREAKER, a device that prevents water contamination, telltales back siphonage. DELANY VALVES are noted for their simplicity and freedom from breakdown.

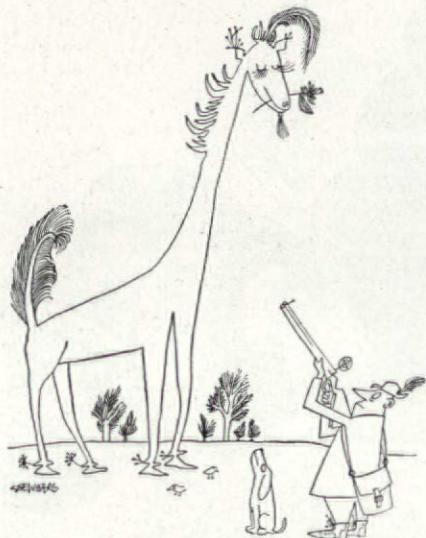
TOMORROW'S PLANNING

There is a bright future coming for community life in America. The pattern is in the weaving, the plans are on the boards, the funds in committees' hands awaiting the return to normal.

The acceptance of the FLUSH VALVE in private homes is but one of the foreshadowing changes now accepted as fact. War building has proved this. The water economy, efficiency of purpose, and freedom from fault and common maintenance of the DELANY FLUSH VALVES, over past accepted methods of domestic sanitation, earns them a place in your plans for modern community improvement.

SINCE 1879
Coyne & Delany Co.
BROOKLYN N.Y.

TECHNICAL LITERATURE



Hunting the HYPERCAPITA

The Hypercapita is a rare and rewarding breed of American buyer. He is always favorite game for U. S. Business.

Because hunting the Hypercapita is no easy matter, FORTUNE advertisers support a private preserve, stocked with more than 230,000 of the finest specimens. The FORTUNE Hypercapita is a high-living, high spender. For example, compared with the U. S. average, his annual expenditures in a few sample fields total:

	FORTUNE's Hypercapita Families	Average U. S. Family
AVERAGE INCOME	\$16,513	\$3,820
Automobiles	876	339
Clothing	1,205	362
Food	1,701	811
Furnishings	264	106
Housing	1,420	528
Personal Care	149	60
Recreation	463	120
Tobacco	99	51
Transportation (other than auto)	380	33

As impressive as this personal spending may seem—it is negligible compared to the spending of the FORTUNE Hypercapita in business. More than 85% are men of management—the nation's greatest industrial shoppers.

FORTUNE

The Magazine of Management

REQUESTS FOR INFORMATION

ASHTON & EVANS, WARE & McCLENANAH, architects & engineers, 47 South Main St., Salt Lake City, Utah, desire technical data, specifications, etc., on materials and equipment suitable for a Veterans' Administration Neuropsychiatric hospital.

EDWARD BANKS, architect, 25 Grove Wood Hill, Coulsdon, Surrey, England, desires design data, details and information on materials and equipment.

L. BALOG, architect, c/o Administration des Chemin de Fer, Gare de Teheran, Iran, would like to receive information on air conditioning and other equipment for hospitals.

PAUL D. GILBERT, architectural division, Drake Construction Corp., 45 Crosby St., New York, N. Y., requests literature on residential building materials, equipment, and appliances.

W. L. JAEKLE, architect, 310 W. Second St., Dayton, Ohio, desires information on all types of flooring and floor coverings suitable for church installation over wood sub-floor.

T. R. MEHANDRU, 7 The Mall, Lahore, India, desires catalogues on building materials and equipment, including electric and sanitary fittings, insulation materials, glasses, etc.

THE UNIVERSITY OF OKLAHOMA, Att: Richard N. Kuhlman, Chairman, Norman, Oklahoma, desires samples of building materials for large materials display room.

OVERSEAS MERCANTILE CO. LTD., import/export, 94 Main St., P. O. Box 9021, Johannesburg, So. Africa, desires information on new building materials suitable for export.

JOHN D. RYBAKOFF, INC., architectural wood work, 29 West 34th St., New York, N. Y. desires literature pertinent to the design and construction of commercial interiors.

NELS O. SWANSON, 748 Addison St., Chicago, Ill. desires information on residential concrete construction methods for southern climates, stainless steel doors and window sash.

ARCHITECTS . . . *You Need This Catalog*

FREE!
Send for New
Catalog Now



Contains Latest Data . . .
Shows Advantages of
Specifying American
Bowstring Roof Trusses.

FOR:

FACTORIES • GARAGES
• BOWLING ALLEYS •
WAREHOUSES • STORES

and many other Industrial, Commercial and Recreational Buildings. Clear Floor Space . . . Spans 25' to 150'. Exclusive Waddington System of Truss Construction.

25th Anniversary

1922-1947



AMERICAN ROOF TRUSS CO.

CHICAGO, 49 • 6854 Stony Island Avenue • Phone PLaza 1772
LOS ANGELES, 37 • 262 W. Santa Barbara Ave. • Phone ADams 1-4379

put
beauty
 into your plans
 with
 the NEW
 Curtis Woodwork



This new Curtis entrance—Design C-1733—can be used successfully on one or two-story houses of any structural material. H. Roy Kelley, architect.

COST need not be the enemy of beauty—if you include the new Curtis Woodwork in your house plans. For Curtis entrances—mantels—china closets—stairways and other stock woodwork—will fit into the most moderate building budget. And the great variety of Curtis Woodwork gives you freedom in planning to fit a wide variety of individual needs and tastes. Architecturally correct in design—built

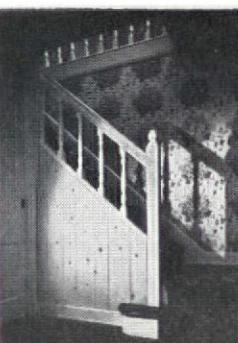
like fine furniture—Curtis Woodwork is the answer when beauty and quality, at reasonable cost, are demanded.

Ask your Curtis dealer to show you the new Curtis Woodwork Style Book—an entirely new and different way of presenting the new Curtis woodwork line. Measuring 15 x 19 inches, this book contains 100 pages of beautiful woodwork styles in natural home settings—many photographs in full color.

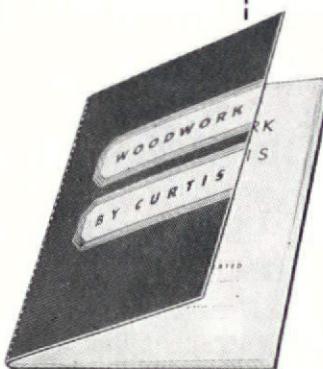


The bowed fascia of this Curtis mantel accentuates its simple charm. One of the many new Curtis designs, it follows the tradition of the 18th Century. Design C-6074, by George W. Stoddard, architect.

Beautiful new china closet by Cameron Clark, architect. A formal and dignified design that is best suited to large rooms. Also made with open front. Corner installation only. Design C-6505.



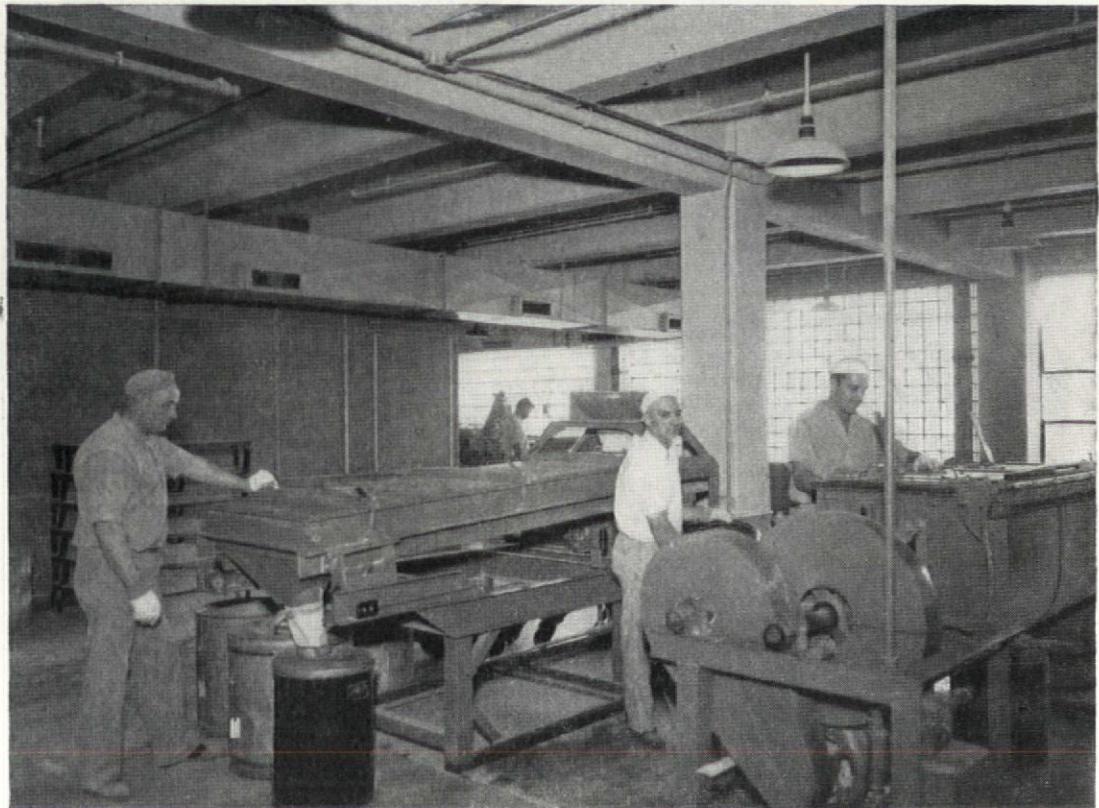
Curtis standard stair parts make up this beautiful stairway. These parts allow widest latitude in designing stairways for any size and style home.



1866
CURTIS
 WOODWORK

Mail the coupon for complete, illustrated literature.

Curtis Companies Service Bureau
 AF-3W, Curtis Building
 Clinton, Iowa
 Gentlemen: Please send me booklets on the new Curtis Woodwork and the new Silentite Window line.
 Name.....
 Address.....
 City.....State.....



**air conditioning
helps foot the bill
for modern industrial building**

Air conditioning has long been improving quality and speeding production in almost every type of industry. But the advantages of Carrier air conditioning start even before production begins. It helps in planning a more efficient modern factory, actually keeps building costs down.

With air conditioning, high ceilings are no longer needed to supply proper ventilation. Conditioned air — cooled or heated according to the

season — is supplied continuously to every part of the plant. Reducing the over-all height of the plant naturally slashes building costs.

Carrier air conditioning leads to further savings in the completed plant. Employees work more efficiently in conditioned air, and produce more. In textile mills, metal-working shops, chemical plants and many other industries, close control of humidity and temperature smooths

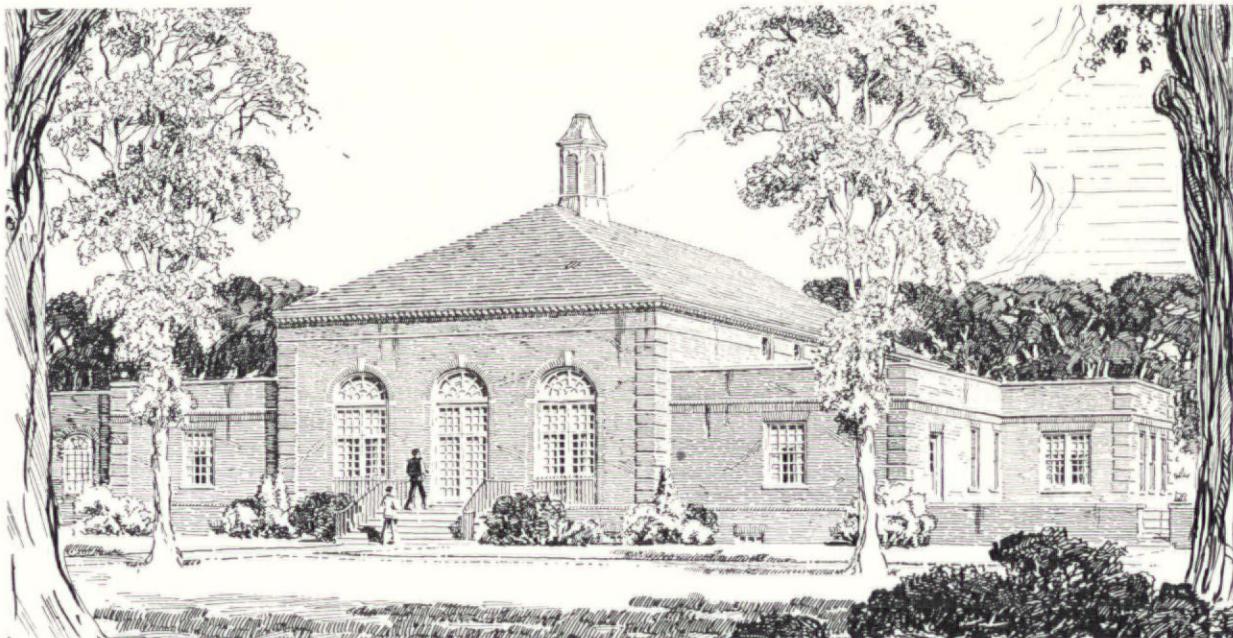
out production wrinkles and helps make better products. In many plants air conditioning pays its way in a short time and goes on to pay increased dividends indefinitely.

Air conditioning by Carrier reflects over 40 years of leadership in the field. It gives you the extra benefits of Carrier's research and world-wide experience, its "know-how" and manufacturing skill. Carrier Corporation, Syracuse, New York.

Carrier

{ AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING

Building for Youth



THE HOTCHKISS SCHOOL DINING HALL, DELANO AND ALDRICH, ARCHITECTS

...where Character Counts

AT NO TIME in the history of American building has the experience, character and ability of 106 years of Crow Construction been as important as it is today. To the architect it assures the faithful and accurate interpretation of design...to the owner, it guarantees sound, serviceable, economical construction. The irrefutable proof of those qualities stands today in the buildings already constructed by Crow...buildings where Character counts.

William L. Crow Construction Co.

101 Park Ave., New York

Over 100 Years of Building

Famous Silent Refrigerator now offers

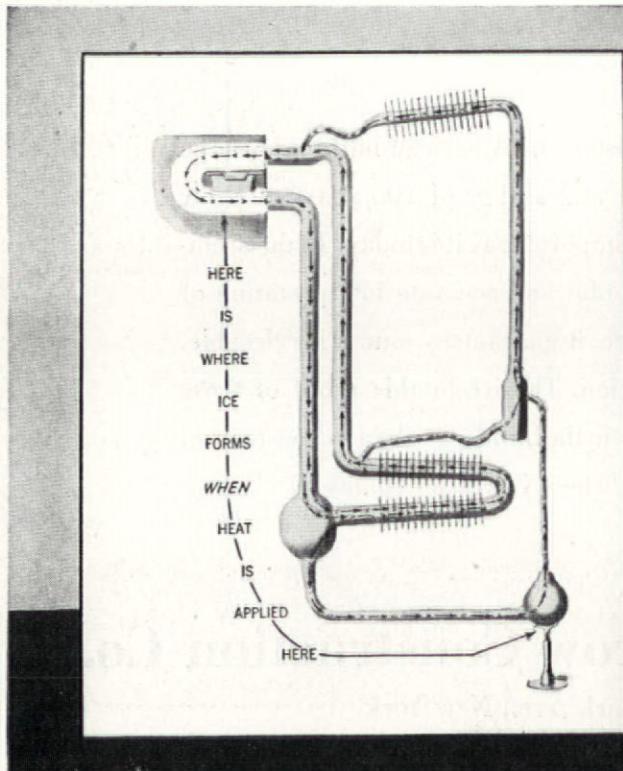
1947 Servel Gas Refrigerator brings tenants and owners great new features, plus silence and dependability

Yes, the great new 1947 Servel Gas Refrigerator is even finer than the Servels that have already won the praises of more than 2,000,000 families. The 1947 Servel contains a big Frozen Food Locker that stores up to 60 packages of frozen foods. This famous refrigerator offers moist cold and dry cold for garden vegetables and meats. A specially designed flexible interior provides extra roominess. Plastic Coated shelves are rust- and scratch-resistant. All these new conveniences—plus Servel's permanent silence—are the reasons tenants will say, "There's nothing to match the 1947 Servel!"

Owners, too, will appreciate the lasting dependability and economy of the 1947 Servel. They know from experience that the Gas Refrigerator not only stays on the

job year in and year out, but its low operating cost remains low for the life of the refrigerator. That's because the freezing system of the 1947 Servel, like that of every previous Gas Refrigerator, has no moving parts to wear or break down.

These exclusive advantages—new, convenient features, plus famous silence and dependability—explain why you're sure to please tenants and owners when you specify the 1947 Servel for the new apartment buildings and homes you design, build or manage. Plan now to provide outlets for Gas Refrigeration in your current designs and construction work. For specification data on the great 1947 Servel Gas Refrigerator, consult Sweet's Catalog. Or write today to Servel, Inc., Evansville 20, Indiana.



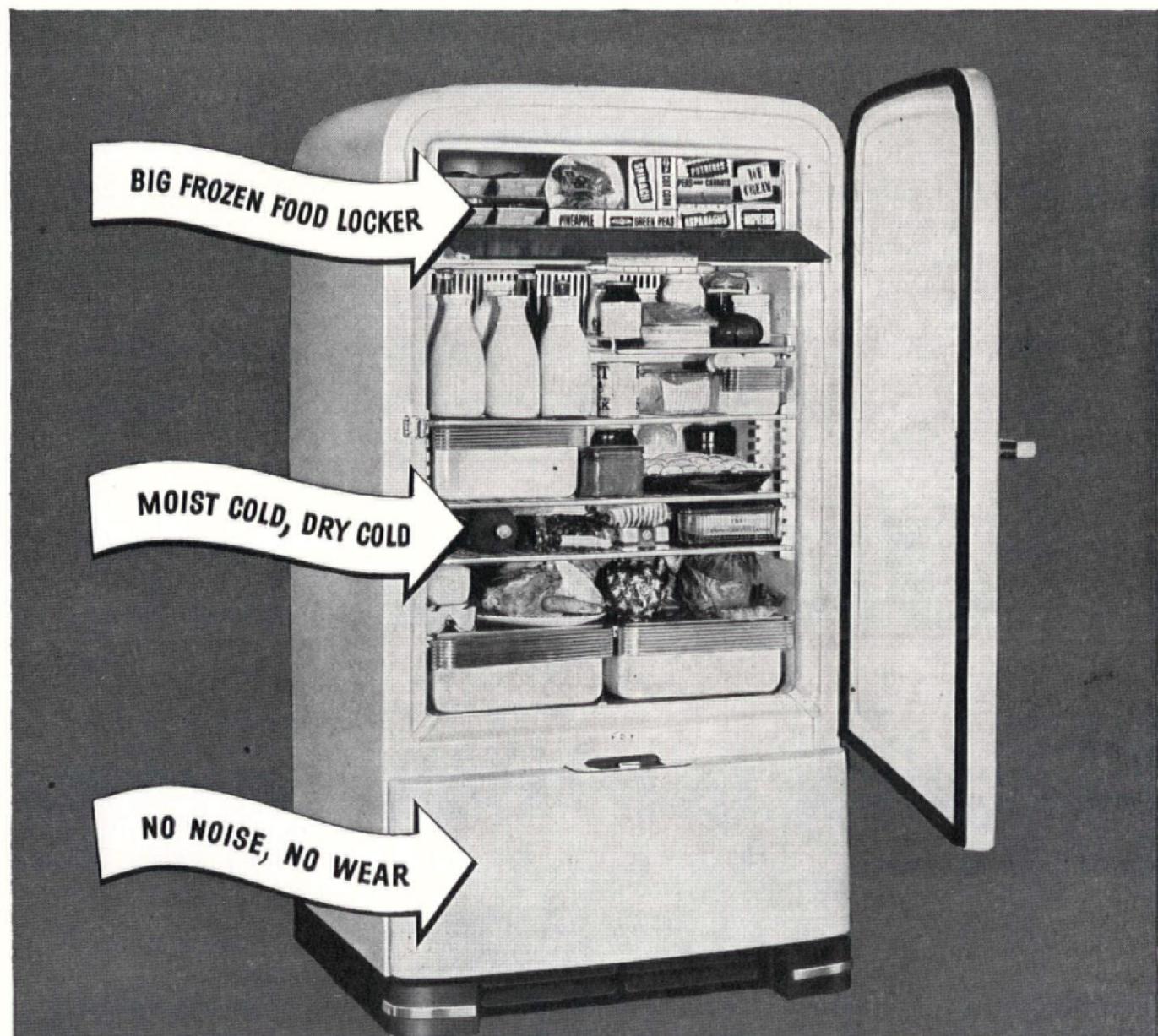
WHY SERVEL STAYS SILENT, LASTS LONGER

Different from all others, the Servel Gas Refrigerator has no moving parts in its freezing system. It operates on the continuous absorption principle of refrigeration. In a Servel, the refrigerant is hermetically sealed in a set of vessels connected by pipes. A tiny gas flame is applied to the lowest vessel. As a result of the evaporation properties of the refrigerant and the law of gravity, ice forms in an upper vessel. No machinery—motor, valves, pumps and compressors—is needed. That's why Servel has no moving parts to get noisy, none to wear . . . why it stays silent, lasts longer.

STAYS SILENT
LASTS LONGER

Servel

more convenience . . . more value



BIG FROZEN FOOD LOCKER.

Up to 60 packages of frozen meats, poultry, vegetables, fruits, biscuits can be stored in Servel's big convenient Frozen Food Locker. It helps housewives save hours of shopping time, plan new and delightful menus in every season.

MOIST COLD, DRY COLD

Servel's big dew-action fresheners are ideal for keeping garden vegetables and fruits. Salad greens actually crisp up, perishables stay safe and appetizing. And fresh meats keep tender for days in the Servel meat keeper.

FLEXIBLE INTERIOR

The 1947 Servel offers an amazingly practical flexible interior. For extra roominess, shelves are adjustable to eleven positions. And they're Plastic Coated for the utmost in rust- and scratch-resistance.

The GAS Refrigerator

SPECIFICATION AND

THE RUSCO STORY IS READ

4,569,160 TIMES A MONTH



**CONSISTENT NATIONAL ADVERTISING HAS
MADE RUSCO ALL METAL SELF-STORING
COMBINATION SCREEN AND STORM SASH**

the country's best-known combination window

When you specify RUSCO WINDOW INSULATION, you can be sure your client knows RUSCO advantages—

SELF-STORAGE—You'll never have to change a screen or storm window again

RAINPROOF, DRAFT-FREE, FILTERED-SCREEN VENTILATION by finger-tip control from inside

PATENTED THERMOLOK* FRAME—Weatherproofs opening—assures permanent fit

CONVENIENCE—Instantly available as storm sash or screen in any season

GREATER COMFORT ON 1/3 LESS FUEL

Information on Rusco Windows is in Sweets—18a-14 or you can obtain complete filing data by sending coupon.

The F. C. Russell Company
6400-AF HERMAN AVENUE • CLEVELAND 2, OHIO

"Always one step ahead
of the weather" with
RUSCO

*T.M. REG. APP. FOR

THE F. C. RUSSELL CO., 6400-AF Herman Ave., Cleveland 2, O.

Gentlemen: Please send me data on Rusco Windows for my files.

Name.....

Address.....

City..... Zone..... State.....

The advertising pages of FORUM are the recognized market place for those engaged in building. A house or any building could be built, completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This FORUM does.

Adams and Westlake Company, The.....	6
Aetna Steel Products Corporation.....	183
Airtemp (Division of Chrysler Corporation).....	153
Alberene Stone Corp.....	40
Allied Chemical & Dye Corporation (The Barrett Division).....	61
American Central Division (The Aviation Corp.).....	141
American Flange & Manufacturing Co., Inc.....	165
American Lumber & Treating Company.....	154
American Radiator & Standard Sanitary Corporation.....	133
American Rolling Mill Company, The.....	53
American Roof Truss Co.....	196
American Telephone & Telegraph Co.....	19
Anchor Post Products, Inc.....	36
Aandersen Corporation	49
Aviation Corp., The.....	52, 141, 204
B & T Metals Company, The.....	62
Bar-Brook Mfg. Co., Inc.....	146
Barrett Division, The (Allied Chemical & Dye Corporation).....	61
Bell & Gossett Co.....	37
Bendix Home Appliances, Inc.....	123
Beneke Corporation	25
Bigelow-Sanford Carpet Co., Inc.....	4
Bird and Son, Inc.....	64
Bituminous Coal Institute.....	59
Borg-Warner Corporation (Ingersoll Steel Division).....	31, 182
Borg-Warner Corporation (Norge Division).....	179
Burnham Boiler Corporation.....	74
Butler Manufacturing Company.....	168, 169
Cabot, Samuel, Inc.....	40
Cambridge Tile Mfg. Company, The.....	Cover II
Carbide and Carbon Chemicals Corporation (Pyrofax Gas Division).....	148
Carr, Adams & Collier, Inc.....	70
Carrier Corp.....	198
Case, W. A., & Son Mfg. Co.....	180
Ceco Steel Products Corporation.....	68, 69
Celotex Corporation, The.....	2
Chase Brass & Copper Co., Inc.....	127
Chrysler Corporation (Airtemp Division).....	153
Church Mfg. Co., C. F.....	46
Colorado Fuel & Iron Corp., The.....	191
Committee on Steel Pipe Research (Amer. Iron & Steel Institute).....	48
Coolstream Corp., The.....	146
Coyne and Delany Co.....	195
Crane Co.....	57
Crow Construction Co., William L.....	199
Curtis Companies	197
Detroit Steel Products Company.....	20, 21
Douglas Fir Plywood Association.....	71
Eagle-Picher Lead Company, The.....	44
Eljer Co.....	Cover III
Elkay Manufacturing Company.....	5
Emerson Electric Manufacturing Co., The.....	156
Facing Tile Institute.....	176
Fiat Metal Manufacturing Company.....	134
Firestone	159
Flynn, Michael, Manufacturing Co.....	63
Formica Insulation Company, The.....	47
Fortune Magazine	196
Frigidaire Division (General Motors Corp.).....	194
General Electric Company.....	139
General Luminescent Corporation.....	140
General Motors Corp. (Frigidaire Division).....	194
Gerity-Michigan Die Casting Company.....	56
Grand Rapids Hardware Company.....	122
Great Lakes Steel Corporation (Stran-Steel Division).....	181
Hall-Mack Company	138
Hendrick Manufacturing Co.....	192
Horton Manufacturing, The (Division—The Aviation Corp.).....	204
Hunter Douglas Corporation	76
Ingersoll Steel Division (Borg-Warner Corporation).....	31, 182
Insulite Company, The.....	175
Irvington Form & Tank Corporation	128
Johns-Manville	186
Josam Mfg. Co.....	41
Just Mfg. Co.....	70
Kelvinator	8
Kennedy, David E., Inc.....	188
Kewanee Boiler Corporation.....	67
Kimberly-Clark Corporation	55, 190
Kinnear Mfg. Co., The.....	44
Kitchen Maid Corp., The.....	32
Kohler Co.....	193

BUYING INDEX

Leader Electric Manufacturing Corp.	18
Libbey-Owens-Ford Glass Co.	7, 75
Lockport Cotton Batting Co.	66
Majestic Company, The	66
Marsh Wall Products, Inc.	170
Medusa Portland Cement Company	54
Mesker Bros.	147
Minneapolis-Honeywell Regulator Co.	145
Modine Manufacturing Company	135
Monroe, Lederer & Taussig, Inc.	58
Morrison Steel Products, Inc.	173
Mueller, L. J., Furnace Company	39
National Association of Ornamental Metal Manufacturers	189
National Cotton Council of America	142
National Electrical Manufacturers Association	32, 33
National Gypsum Company	160
National Life Insurance Company, The	132
Norfolk and Western Railway	155
Norge Division (<i>Borg-Warner Corporation</i>)	179
Norton Company	50
No Sag Spring Company	174
NuTone, Inc.	125
Ohio Hydrate & Supply Co., The	124
Otis Elevator Company	51
Overhead Door Corporation	Cover IV
Owens-Corning Fiberglas Corporation	72
Owens-Illinois Glass Company	30
Pantasote Corp. of N. J., The	184
Parafine Companies, Inc., The	62
Penberthy Injector Company	43
Pittsburgh Corning Corporation	17
Pittsburgh Plate Glass Company	150, 151, 185
Portland Cement Association	167
Pratt & Lambert, Inc.	26
Prestile Manufacturing Company	28
Prima Products	143
Pyrofax Gas Division (<i>Carbide and Carbon Chemicals Corporation</i>)	148
Reardon Company, The	129
Revere Copper and Brass, Incorporated	42
Reynolds Metals Company	35, 144
Ric-wil Company, The	161
Rittenhouse Company, Inc., The A. E.	164
Robertson, H. H., Company	137
Roddis Lumber & Veneer Co.	38
Rolscreen Company	178
Roper, George D., Corporation	157
Rowe Manufacturing Co.	121
Ruberoid Co., The	29
Russell, The F. C., Company	202
Saint Paul Corrugating Co.	56
Salter Mfg. Co., H. B.	152
Seaporcet Porcelain Metals, Inc.	140
Servel, Inc.	200, 201
Sisalkraft Company, The	138
Sloan Valve Company	27
Smith, Barney & Co.	144
Smith Corporation, A. O.	187
Soss Manufacturing Company	58
Speakman Company	65
Spencer Heater Division (<i>Aviation Corp.</i>)	52
Steelcraft Manufacturing Co., The	60
Stengaard, W. L., and Associates, Inc.	142
Stran-Steel Division (<i>Great Lakes Steel Corporation</i>)	181
Structural Clay Products Institute	171
Swedish Crucible Steel Company	136
Taco Heaters, Inc.	36
Taylor, Halsey W., Co., The	60
Taylor Manufacturing Co.	203
Time	172
Timken Silent Automatic Division (<i>The Timken-Detroit Axle Co.</i>)	131
Trane Company, The	34
Truscon Laboratories (<i>Division of Devoe & Raynolds Co., Inc.</i>)	149
Truscon Steel Company	1
United States Plywood Corporation	166
United States Rubber Company	45
Victor Electric Products, Inc.	126
Wade Manufacturing Company	64
Walworth Company	177
Webster, Warren, & Co.	28
Werner, R. D., Co., Inc.	136
White-Rodgers Electric Co.	23
Wiley, John & Sons, Inc.	148
Wood Conversion Company	158
Wurlitzer Co., The Rudolph	163
York Corporation	73
York Shipley, Inc.	24
Young Radiator Company	192



WRIGHTFLOR THE QUALITY FLOOR THAT COSTS LESS TO OWN

• *Wrightflor* is an investment in good flooring — an investment that keeps paying dividends by its many years of service and low upkeep cost. Twenty years is not an uncommon life span for Wright Rubber Tile installations, and owners state that even under the heaviest traffic, damp mopping and dry buffing keep Wright floors looking like new.

Think what these long-term savings will mean to your clients who put *Wrightflor* in their homes, offices, or any building that is subjected to day-in and day-out shuffling of feet. And think what it means to you to recommend *Wrightflor*, the quality floor that *costs your customers less to own!*

You'll be interested in the types of buildings having Wright Rubber Tile floors. Send for our partial list of representative installations. Also ask for list of colors and prices.



W R I G H T - O N - T O P Compression Base

The patented flexible wall base that never needs refinishing, and ever stays snug despite floor shrinkage. Keeps out dirt and water, resists scuffs, scratches, stains and chemicals. Equally effective with any type floor.

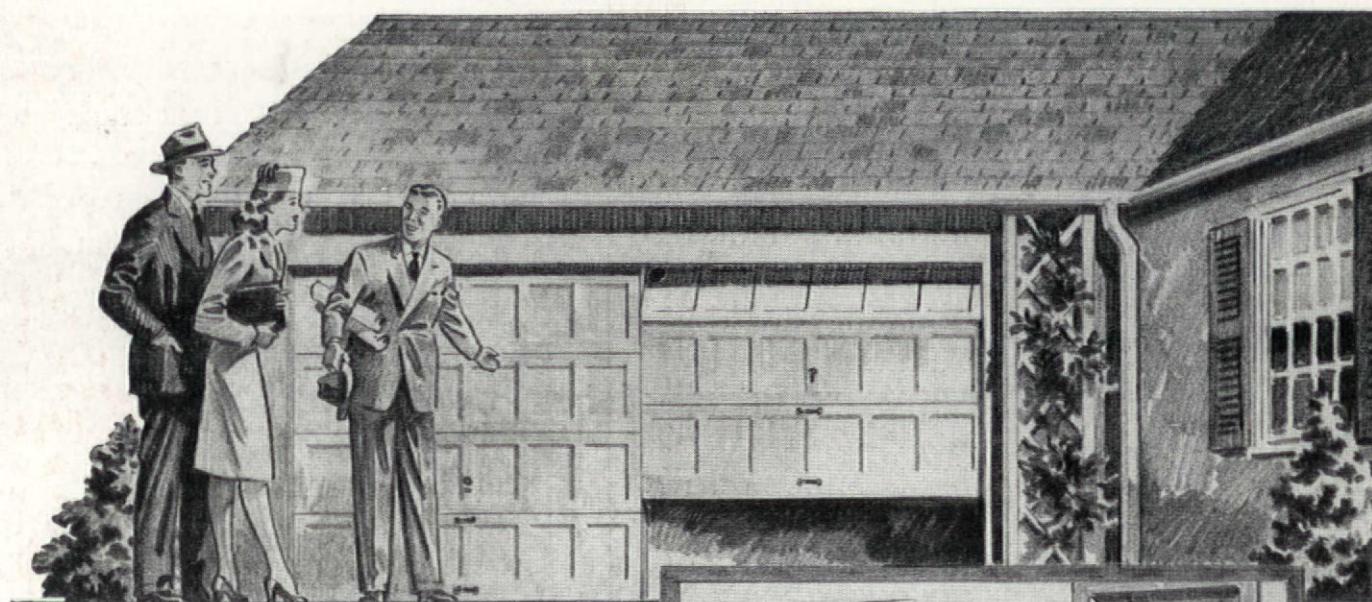
U. S. Pat. No. 2300084—Can. Pat. No. 417081

TAYLOR MANUFACTURING CO.

WRIGHT RUBBER PRODUCTS DIVISION

3062 W. MEINECKE AVE. • MILWAUKEE 10, WIS.

WRIGHT RUBBER TILE
Flooring of Distinction



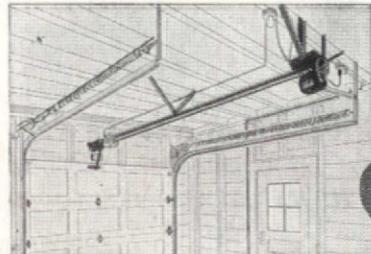
Better Living
for
Home Owners



with the AVCO AUTOMATIC DOOR OPERATOR

A touch of modern design . . . one appreciated by thousands of home owners . . . is the AVCO "Doorman." This efficient, trouble-free device opens and closes garage doors automatically—day or night, rain or shine. Touch a button inside the car, garage or home. Electronics do the work. The AVCO "Doorman" also adds value and prestige to your home plans in

another way.* It serves as a "watchman," can turn driveway lights on or off, if desired—a protective feature all members of the family appreciate. This nationally-advertised "plus value" operates any standard-type garage door. For full information about this new convenience, that costs only a few cents a day to operate, wire or write today.



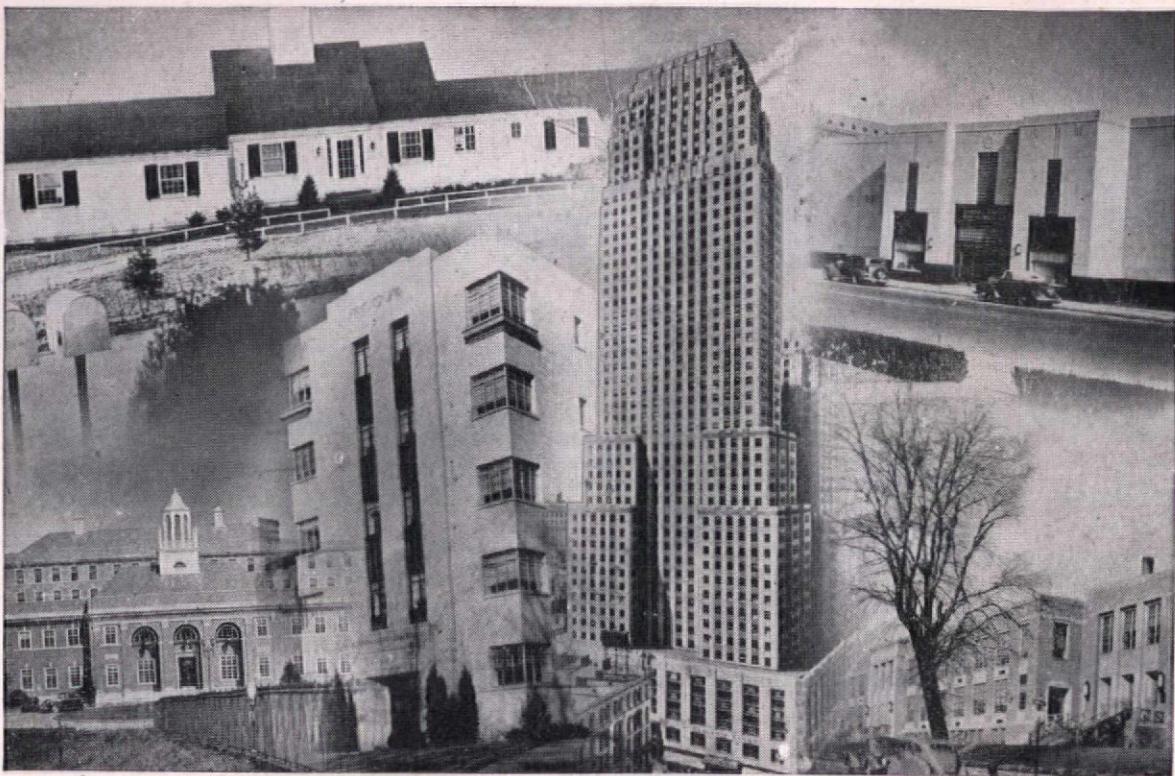
EASILY INSTALLED, the AVCO AUTOMATIC DOOR OPERATOR fits sectional overhead, one-piece overhead, tilting or canopy, and two-piece outward swing doors.



AVCO AUTOMATIC DOOR OPERATOR

The Horton Manufacturing
Division — The Aviation Corporation
Dept. AA-11

Circleville, Ohio



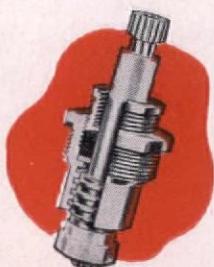
TO THOSE WHO HELP *build* AMERICA

America is growing. The pioneer spirit is as bright today as it was when covered wagons moved along the Oregon trail. Today, the nation is growing vertically more than horizontally; the builder of big buildings is the pioneer of today.

Eljer has been active in the American construction scene since 1904. More and more Eljer

plumbing fixtures are being installed in new buildings of every kind . . . and there is an Eljer fixture for every need.

Eljer's line covers the complete range of vitreous china and enameled cast-iron fixtures as well as brass trim. To learn more about it, see your nearest Eljer distributor or write to Eljer Co., Box 192, Ford City, Pa.



Eljer Renewable Brass Fittings

Eljer fixtures are available with quality *renewable brass fittings* . . . featuring the *exclusive Eljer Swivel-Disc* that virtually eliminates dripping and corrosion. Faucets operate smoothly at the touch of a finger and wear on moving parts is reduced to a minimum.

ELJER CO.

Factories at

FORD CITY, PA. • SALEM, OHIO • LOS ANGELES, CAL.

ELJER CO.

. . . FACTORIES AT

FORD CITY, PA. • SALEM, OHIO • LOS ANGELES, CALIF.

SINCE 1904 MAKERS OF FINE PLUMBING FIXTURES

Superior . . .

in STRENGTH and PERFORMANCE

Production by skilled craftsmen in conformance with rigid engineering requirements results in the built-in strength and constantly reliable performance of The "OVERHEAD DOOR" with the Miracle Wedge. This door, manufactured as a complete unit for use in residential, commercial and industrial structures, is chosen again and again where superior durability and service are demanded. It is the all-purpose door to install for instant, always dependable operation.

TRACKS AND HARDWARE OF SALT SPRAY STEEL



Any "OVERHEAD DOOR" may
be manually or electrically operated.
Sold and installed by Na-
Wide Sales--Installation--Ser-

OVERHEAD DOOR CORPORATION

Hartford City, Indiana, U.S.A.

COPYRIGHT 1947, OVERHEAD DOOR CORPORATION

